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The beetles of Barbados, West Indies (Insecta: Coleoptera): diversity, distribution and faunal structure

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The beetles of Barbados, West Indies (Insecta: Coleoptera): diversity, distribution and faunal structure

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Abstract. The beetle fauna of the island of Barbados is summarized. It is now known to contain 202 genera, and 254 species (in 40 families), of which 232 are named at the species level. Undoubtedly, the actual numbers of species on Barbados are much higher than now known. Nine species are possibly endemic to the island, 15 have been intentionally introduced, and 51 have probably been accidentally introduced through human activity. The remaining 157 named species may occur naturally as a result of natural over-water dispersal processes. These species mostly have a wide distribution in the Antilles and Latin America. The total named fauna is thus about 72% naturally occurring, and 28% the result of human-aided dispersal.

Introduction

The island of Barbados is the easternmost island of the West Indies (Fig. 1). It is located at 13º10' north latitude and 59º35' west longitude, about 150 km east of the Windward Islands group of the main north-south chain of islands of the Lesser Antilles. The island is relatively small: 32 km long, 23 km across, and 445 km^2 in area. The human population density of 1560/km^2 (2000 data) is one of the world's highest. Botanically and geologically Barbados is one of the best-known islands of the Lesser Antilles. It is a relatively isolated non-volcanic oceanic island which has been available as land for over-water colonization by terrestrial organisms only since the early Pleistocene (i. e. some one million years ago; Bender et al. 1973, Machel 2004, Matthews 1973).

Barbados lies in a belt of trade winds that generally blow from the east or northeast. The climate is tropical and subhumid to humid. Mean annual temperature ranges from 24ºC to 28ºC. The average island rainfall is 150 cm per year. Most precipitation falls in the rainy season of August to December, and rainfall is greatest in the central and higher parts of the island where it can support seasonal semi-deciduous forest vegetation. Most insect activity occurs in the rainy season.

The earliest entomology summary of Barbados is seemingly that of Stoner (1919). The island is now reported to have 1313 known species of terrestrial arthropods (Tucker 1952; Bennett and Alam 1985). The better known insects are those of large body size, are ecologically dominant or common, and of negative or positive economic importance. The best known insect groups may be Odonata (with 9 species) and the butterflies (with 25 species, including the skippers). Bennett and Alam (1985) list 239 species of beetles, up from the 152 species of Tucker (1952). These numbers are low in comparison with the smaller Lesser Antillean island of Grenada (356 km^2 in area, with over 2000 species of insects and 507 species of beetles, Woodruff et al. 1998) and with the larger island of Dominica (751 km^2 in area, with 347 species of beetles, Peck 2006). The lack of natural bodies of permanent surface fresh water is reflected by the absence of Ephemeroptera, Trichoptera, and Plecoptera, which are known from some of the "high" islands of the Lesser Antilles. The purpose of this contribution is to present a modern and critical reevaluation of the literature and taxonomy of the beetle species of Barbados for an ongoing overview and study of the beetles of this and other islands of the Lesser Antilles.

Natural history

Useful references for understanding the vegetation and its history (as a guide to insect habitats) are Fermore (1972), Gooding (1974), Randall (1970), and Watts (1970, 1978). These give background data on geology, geography, climate, topography, and additional references. The most informative map is the 1993 Ordnance Survey 1:50,000 topographic map obtained at Lands and Surveys Department, Culloden Road, St. Michael, Bridgetown, Barbados. There are also sets of sheets for the island at 1:2500 and 1:5000 scales. Weeks (1995) gives trail maps for many walks in comparatively natural habitats.

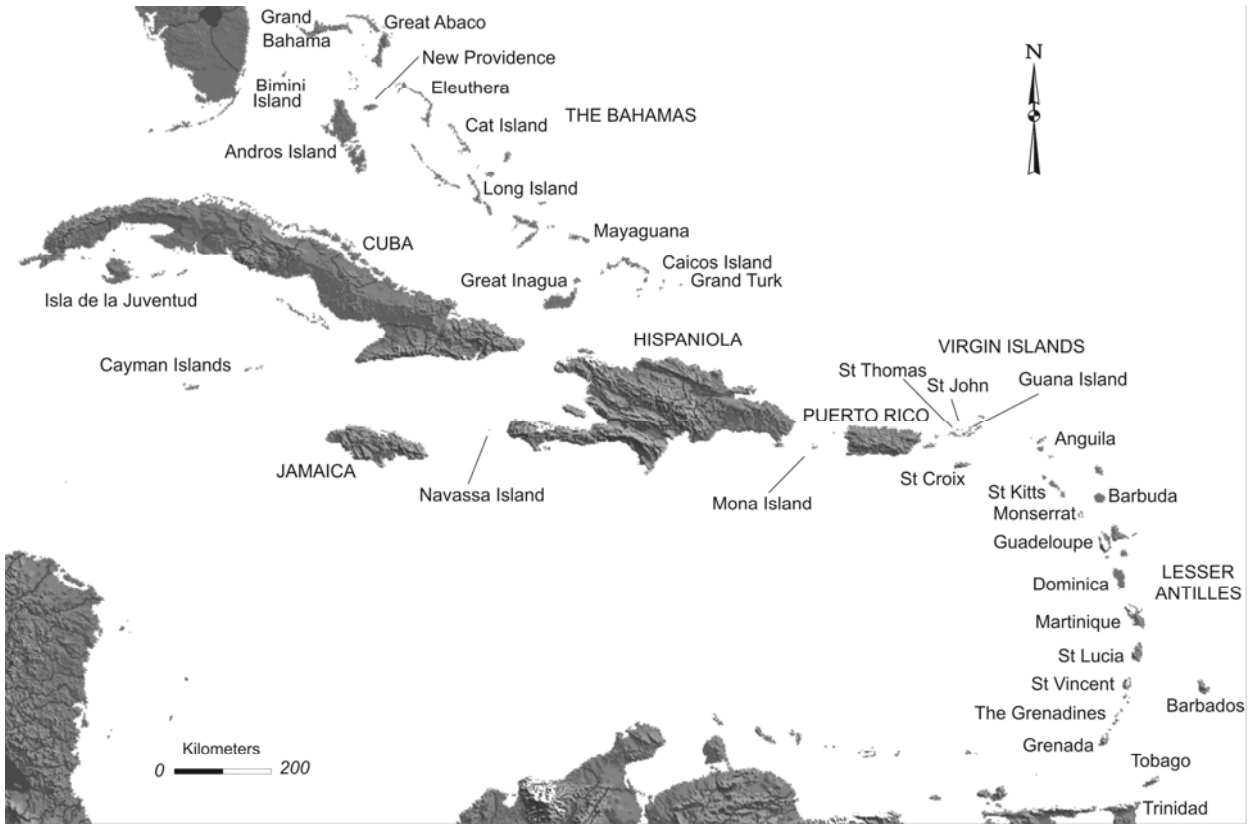

Figure 1. The islands of the central and eastern West Indies and adjacent continental land masses, showing Barbados to the east of the main island arc of the Lesser Antilles.

Geology. The geological history of Barbados is relatively simple, and different from that of most of the other Lesser Antilles, which are mostly volcanic in origin and composition (Machel 2004). The core of Barbados is marine clastic sediments accumulated in deep water some 50 million years ago. These are now exposed in the east in the rugged Scotland District. When the leading eastward edge of the Caribbean seafloor plate overrode the subducting Atlantic seafloor plate these sediments were deformed and uplifted to near the ocean surface as the north-south trending Barbados Ridge. Some 2 to 1 million years ago an ancestral Barbados rose above the ocean surface and a small land area was then first exposed and available for terrestrial colonization. This ancestral island was about 5 km by 10 km, the size of the Scotland District today, and was continuously modified since then by erosion. To the west of this early island, in clear and shallow water, a coral reef carbonate caprock was precipitated. This reef-caprock rose above the ocean surface some 500,000 years ago. Subsequent uplift continued in an episodic fashion and formed a broad and low set of stair-steps of terraces and bounding high cliffs (which mark the former reef faces) which make up most of the area of Barbados today. Exposed land area increased throughout the Pleistocene by episodic uplift. Additionally, during glacial times, when global sea level fell by 130 m or more, Barbados had even more exposed land area than at present. Compared to other "high" islands of the Lesser Antilles which have elevations of 1000 m or more, Barbados is comparatively low, with a maximum elevation of 340 m at Mt. Hillaby.

Vegetation. Barbados was originally completely covered with West Indian seasonal semi-deciduous forest. With European colonization, starting in 1627, Barbados underwent extensive deforestation, most of it within the 15 years following the introduction of sugar cane as a crop in 1645. Producing and fallow cane fields now cover some 80% of the island. Since the start of cane cultivation, less than 5% of the island's area has remained continuously wooded throughout the past 300 years (Fig. 2). However, a remarkable diversity of some 700 native plants (Gooding et al. 1965), of which 388 are limited to the West Indies (Watts 1970, Carrington 1993), and many native insects, have survived in rough country along rocky escarpments and in the many kilometers of deep gullies which radiate from the island's center.

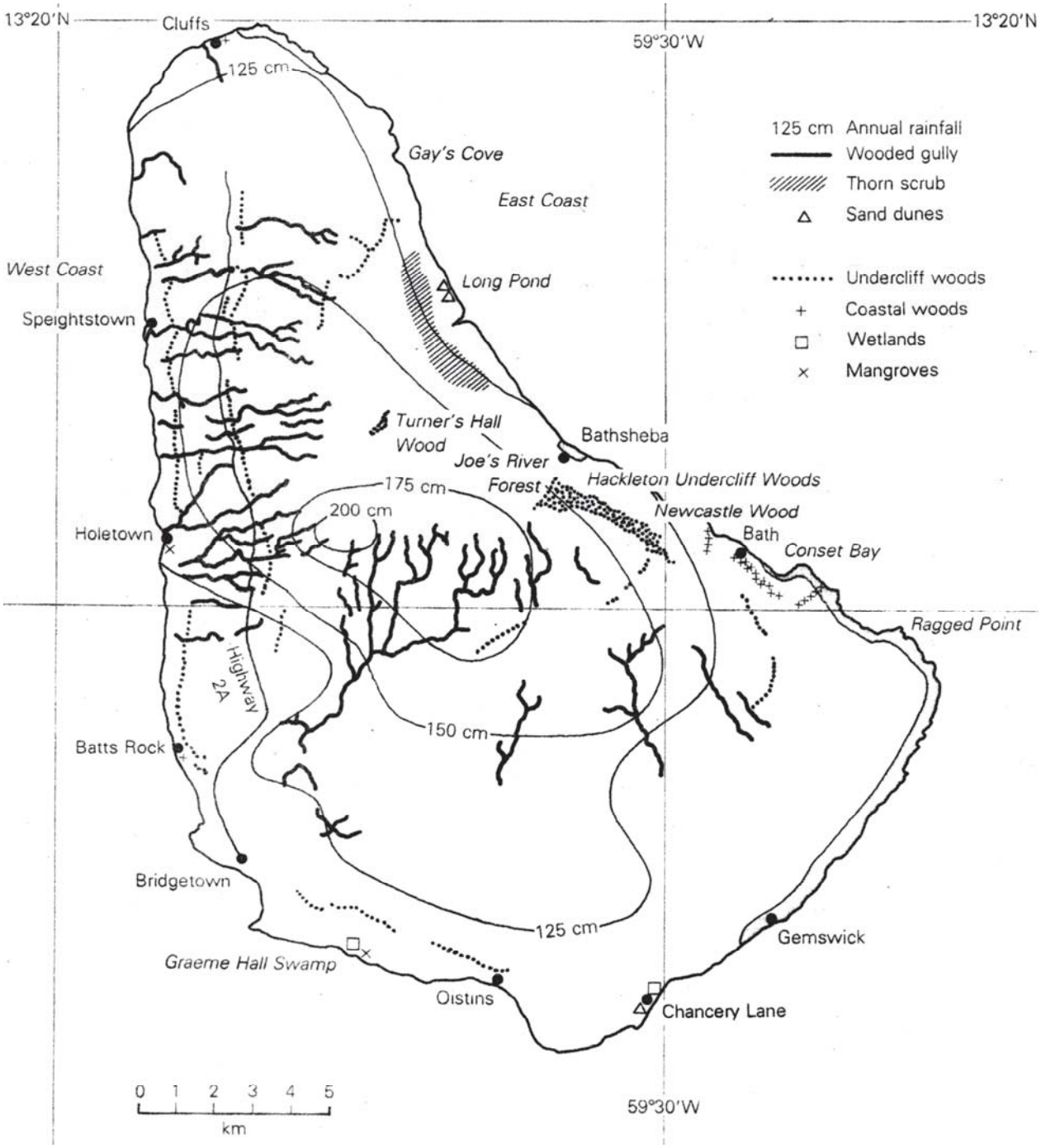

Figure 2. General outline map of Barbados with locations of major plant communities harboring native beetle faunas (adapted from Carrington 1993).

Some southern, eastern and northern coastal areas are decidedly semi-arid with typical vegetation, including columnar *Cereus* cactus and *Acacia* thorn scrub (Fig. 2). An online introduction to the native vegetation is at http://ecflora.cavehill.uwi.edu.

Gully forests. Gullies are 5% of the land area of the island and contain 35% of the native plant diversity, of which 80% is native to the eastern Caribbean. It is usually possible to climb down into the gullies where highway bridges cross them, especially in the area east of Holetown. An attractive mix of introduced and native vegetation is preserved in Welchman Hall Gully, about 8 km E of Holetown,

Figure 3. Seasonal semi-deciduous forest in Turner Hall Woods, Barbados.

operated as a tropical forest reserve by the Barbados National Trust. The Gully has over 150 plant species of the some 700 native to Barbados. Collecting is possible in the many other available gully forests, e.g., Jack-in-the-box Gully at Harrisons Cave (a tourist attraction) and its downhill continuation as the gully forest at Coles Cave (Peck 1981) (both near Welchman Hall village), and the forest in Whim Gully, east of Speightstown. There are also forests at Hackleton Cliff Woods, Joes River Forest, and Boscobell Woods, all in the more rugged Scotland District. Directions to these are given in Weeks (1995).

Turner Hall Woods. The finest native forest site is Turner Hall Woods (Fig. 3), about 20 ha (50 acres) in area, located on a hill slope between 180-240 m elev. It has a high and complete canopy, and is a multi-story tropical mesophytic (seasonal semideciduous) forest. This remnant gives an excellent idea of the nature of the former original mesophytic forests of Barbados. It is reached on foot by a dirt track, a former jeep road, going to the east from the spur road between Turners Hall and Mose Bottom villages, starting at N 13°13.338', W 59°35.257'. Parking is possible about 50 m down the track before it descends steeply. This track runs the length of the Woods and comes out at the village of Cheltenham (Weeks 1995) but is now interrupted by a large land-slip.

Mahogany groves. Watts (1978) discusses the high abundance of native sub-canopy plant species (and presumably their insect associates) found commonly around the island in old woodlots of mahogany (*Swietenia mahogoni*), first introduced some 250 years ago. Large woodlots with an understory of native vegetation are suitable for sweeping and blacklight trapping. Some examples are at St. Nicholas Abbey Plantation, St. Peter; at Grenade Hall Forest (with some original forest), St. Andrew; and Codrington College, St. John.

Mangrove forest. The Graeme Hall Nature Sanctuary, in Christ Church Parish, Main Road, Worthington (between Oistins and Bridgetown) is the only remaining coastal mangrove forest and sedge

swamp (Fig. 2). It is 1.3 ha (3.2 acres) in area, is part of the Graeme Hall Swamp National Environmental Heritage Site, and has insects of brackish-freshwater transition vegetation.

Materials and Methods

Barbados Insect Collections. A critical evaluation of the beetle records given in Bennett and Alam (1985) is hampered by the absence of voucher specimens of suspect records. Voucher specimens for the previously published species records were sought in two presently neglected collections. The collections were originally assembled by M. Alam of CARDI (Caribbean Agricultural Research and Development Institute) before his retirement and the breakup of that collection. Part of the collection is under the care of Dr. Ian H. Gibbs, in the Entomology Section, Ministry of Agriculture and Rural Development (Graeme Hall, Christchurch). The beetles in this collection are in three glass-topped drawers. The acronym **BMAC** (Barbados Ministry of Agriculture collection) is inserted in the following species list where one or more voucher specimens were present in 2007 in that collection. The remainder of the CARDI collection is now with the Department of Biology, University of West Indies, Cave Hill (Bridgetown). It is stored in three cabinets of 15 drawers apiece. The beetles, in four drawers, are mostly from islands other than Barbados (Grenada, Dominica, St. Vincent, etc.). Voucher specimens and residues from my collecting are in my collection (**SBPC**), the Canadian Museum of Nature (**CMNC**), Field Museum of Natural History, Chicago, IL (**FMNH**), United States National Museum (**USNM**) and the Florida State Collection of Arthropods, Gainesville, FL (**FSCA**). There is also a 20 drawer collection with 17 drawers of Lepidoptera and two drawers of beetles at the Barbados Museum and Historical Society, Garrison Road, Kingstown.

Collecting. No permits are needed for collecting or export of insects beyond land-owner permission. My field-work focus was on the forested gullies, as the sites most likely to contain remnants of the original forest beetle fauna of the island. Collecting was in February 1979, August 2005, May 2006, and June 2007 by sweeping, beating, Malaise traps, flight intercept traps, litter sifting, and baited pitfall traps. Results were good but not overly diverse. Sweeping and beating often yielded an abundance of the little red fire ant (*Wasmannia auropunctata* (Roger)) which is apparently native in Barbados. This ant is known to reduce diversity of ground and vegetation dwelling insects where it has been introduced (Holway et al. 2002). Many new beetle family and genus records are now available for Barbados but are not reported here in the hope that species level identifications will later become available.

Field Station. Accommodation, library and laboratory facilities for field-work are present at the Bellairs Research Institute (of McGill University), 1 km N of Holetown, on the coast road north of Bridgetown. Additional information for field-work is available at http://www.mcgill.ca/bellairs.

Literature records. The sources of the beetle species records in Tucker (1952) and Bennett and Alam (1985) were not documented. Some were drawn from the literature but the sources were not given. Some are undoubtedly from Leng and Mutchler (1914, 1917) and Blackwelder (1944-1957). A limitation of the Blackwelder (1944-1957) list and some other catalogs is that references are given for the original species description, but are often not given for later literature which added supplementary distributional information. Additionally, much of the taxonomy in the records in Tucker (1952) and Bennett and Alam (1985) is incorrrect or outdated. Such records are critically re-evaluated and corrected here. Catalogs, revisions, and summaries with West Indian records were searched for records of beetles from Barbados. Sometimes catalogues do not specifically mention Barbados but vaguely group it with other islands as "West Indies," "Antilles" or "Lesser Antilles" and are not useful. Also searched were the Coleoptera sections of the Zoological Record (from 1940 to 2006). Undoubtedly, the vast taxonomic literature of family and generic revisions of beetles in the West Indies contains Barbados records which I have missed. Some recent publications have provided modern summaries of the beetles of other West Indian islands or bordering lands: Bahamas (Turnbow and Thomas 2008), Cuba (Peck 2005), Dominica (Peck 2006), Dominican Republic (Perez-Gelabert 2008) and Florida (Peck and Thomas 1998).

Classification. The family, subfamily, and tribal level classification system and sequence used here is that of Lawrence and Newton (1995) as modified in Arnett and Thomas (2000) and Arnett et al. (2002). The families are listed in the sequence presented there but are re-numbered to incorporate all the families of the world so that later additions can be more easily inserted into the list. The genera and species are arranged alphabetically under subfamily or tribe.

Table 1. Alphabetical listing, by family, of beetle species which are possibly endemic to Barbados. The young age of the island makes questionable the status of these as being really restricted to Barbados.

Family	Genus and species
Buprestidae	*Chrysobothris antillarum* Fisher
Carabidae	*Selenophorus barbadensis* Ball and Shpeley
Cerambycidae	*Lagocheirus unicolor* Fisher (?)
Cerambycidae	*Plectromerus louisantoini* Dalens and Touroult
Histeridae	*Acritus strigipennis* Bickhardt
Hybosoridae	*Aneides vartorelli* Ocampo
Scarabaeidae	*Phyllophaga smithi* (Arrow)
Staphylinidae	*Oligota barbadorum* Frank
Staphylinidae	*Clavilispinus mariannae* Irmler

Identifications. Names listed here for new records are attributed to the person providing the determination or the voucher collection holding the record. No effort was made to give all earlier citations of a species if these are available in a more recent work that is cited. Full citations for descriptions by early authors can be found in Blackwelder (1944-1957). To give these here would excessively lengthen the references section of this list. I give genus and species, author, year and page of publication (when I could find them), and subsequent West Indian or Lesser Antilles references (not all-inclusive), in chronological order. The most recent reference can be a lead into previous literature. Generic and specific synonyms are only those used in a West Indian context. Complete synonymies are not given, but original and later generic assignments are provided when known.

Distributions. A general statement of distribution is given for species presumed to be indigenous (naturally occurring). Then are given, in alphabetical order, the names of all West Indian "oceanic" islands known or reported to have the species. These islands are not on the submarine shelves of the neighbouring continents and were not connected by dry land to the continents during low sea levels at times of global Pleistocene glaciations. When continental mainland countries or continental shelf islands are known as a part of the species range these are then listed separately in alphabetical order. Species residency status is assumed to be indigenous (in Barbados as a result of natural dispersal processes), unless it is likely to be endemic (limited to Barbados) or introduced through either accidental or intentional human activity. Intentional introductions were usually by the CIBC (Commonwealth Institute of Biological Control, Trinidad). Intentionally introduced species are noted as being not established or as established; and it is noted if they became important biocontrol agent (data from Bennett and Alam 1985).

A conservative approach is taken in the construction of the geographic distribution list. It usually includes only explicit literature records for Barbados or identified Barbados material vouchered in collections identified by acronyms as above. Species reported to be widespread in the Lesser Antilles, but for which explicit Barbados island records are absent, are not included. Species listed as likely to have been accidentally introduced to Barbados are only those where a specialist has explicitly stated the species to be not native to Barbados, the West Indies, or the New World. Probably more species are in Barbados through accidental introduction than are here recognized.

Bionomics. Information on the bionomics (general natural history) of the species is given (if available), usually from the literature cited for the species. Scientific and common Barbadian local plant names for hosts of phytophagous species are listed in Bennet and Alam (1985). Prey names for predatory species of economic impact and common or scientific names for plant hosts of phytophagous species are given without indication of their order or family or author.

Results and Discussion

The beetle fauna of the island of Barbados is summarized. It is now known to contain 202 genera and 254 species (in 40 families), of which 232 are named at a species level. Undoubtedly many additional species remain to be discovered and/or identified. Of the known species, nine are recognized as possibly endemic to the island (Table 1). Fifteen species have been intentionally introduced to the island for biocontrol purposes (Table 2). An additional 51 species have probably been accidentally introduced to the

Table 2. Alphabetical listing of beetle species which were intentionally introduced as biocontrol agents to Barbados.

Family	Genus and Species	Probable origin	Reason for introduction	Notes
Coccinellidae	*Chilocorus cacti*	Latin America	Predator on scales	Important agent
Coccinellidae	*Cryptognatha nodiceps*	South America	Predator on scales	Not established
Coccinellidae	*Cryptolaemus montrouzieri*	India	Predator on scales	Not established?
Coccinellidae	*Exochromus lituratus*	Asia	Predator on scales	Not established?
Coccinellidae	*Hyperaspis sp.*	India	Predator on scales	Not established?
Coccinellidae	*Nephus sp.*	India	Predator on scales	Established
Coccinellidae	*Pentilia insidiosa*	South America	Predator on scales	Established
Coccinellidae	*Pseudoazya trinitatus*	South America	Predator on scales	Established
Coccinellidae	*Rodolia cardinalis*	Australia	Predator on scales	Important agent
Curculionidae	*Athesapeuta cyperi*	Asia	Herbivore on pest	Not established?
Curculionidae	*Smicronyx roridus*	Asia	Herbivore on pest	Not established?
Elateridae	*Ignelater luminosus*	Greater Antilles	Predator on pests	Important agent
Elateridae	*Ignelater phosphoreus*	New World	Predator on pests	Common
Histeridae	*Pactolinus chinensis*	Asia	Predator on flies	Not established
Nitidulidae	*Cybocephalus nipponicus*	Old World	Predator on scales	Established?

island by human activities (Table 3). This puts the known fauna at 72% occurring as a result of natural dispersal and speciation processes, with the remaining 28% the result of human-aided dispersal.

Endemism. The youth and low elevation of the island explains the low number of endemic plants (2-8 species depending on the authority). Few endemic insect species are known or should be expected. Nine beetle species are known only from Barbados, and may thus be endemic (unique) to the island (Table 1). However, the island seems to be too young to have been a site for the process of insect speciation. Alternatively, the apparent endemics may have originated on other lands or islands, dispersed to Barbados, and inadequate collecting or identification effort has not yet discovered them elsewhere. The young age of the island does give a valuable reference point in time since which the terrestrial flora and fauna has arrived. The dynamic dispersal capabilities of insect species may be deduced from what has and has not arrived in this time. For example, Scarabaeinae dung beetles (Matthews 1966), Passalidae, and Cholevinae (Leiodidae) small scavenger beetles do not occur in Barbados but are on other older main-chain islands of the Lesser Antilles. These groups have had the time and ability to cross the oceanic water gap from source areas to those islands, but not to Barbados.

Intentionally introduced species. Fifteen species are recognized to have been intentionally introduced to Barbados (Table 2), all for the purpose of biocontrol of pest insects or plants. Seven of these seem not to have become established, and four have become common and important biocontrol agents.

Accidentally introduced species. Species associated with human activities, especially when originating in the Old World, suggest that these have been accidentally brought to Barbados. Some have other data which suggests they are not naturally occurring in Barbados. Fifty one species are hypothesized as likely to be non-native components of the fauna (Table 3). This means that 28% of the named fauna is on Barbados because of some kind of aid to dispersal from accidental and intentional human action. Most of these have some level of negative effect on humans, but a few (10) seem to be neutral from a human perspective, or perhaps of positive advantage to humans (six are known predators on pest insects).

Indigenous species. The remaining 157 named species may be hypothesized as being indigenous components of the fauna of Barbados, having arrived by natural over-water dispersal processes. This is 72% of the total named fauna. Undoubtedly many more new species records are yet to be discovered. Based on a species/area relationship with other Lesser Antilles islands, it can be calculated that up to some 1270 beetles species may have originally been present on Barbados before the extensive habitat alteration following European colonization (SBP unpublished).

Distributional patterns. The indigenous fauna known to species name (157 species known to species name so that distributions can be analyzed) has one notable and dominant pattern of distribution (Table 4). It is that 55 species are widely distributed in or beyond the tropical parts of the New World.

Table 3. Alphabetical listing of beetle species which are hypothesized to have been accidentally introduced to Barbados.

Family	Genus and Species	Probable origin	General habits or habitats	Impact on humans
Anobiidae	*Stegobium paniceum*	Old World?	Stored products, etc.	Negative
Anobiidae	*Lasioderma serricorne*	Old World	Stored products, etc.	Negative
Anthribidae	*Araecerus fasciculatus*	Indo-pacific	Stored products	Negative
Bostrichidae	*Dinoderus minutus*	Orient	Stored products, etc.	Negative
Bostrichidae	*Heterobostrichus aequalis*	Orient	Plant & wood borer	Negative
Bostrichidae	*Sinoxylon conigerum*	Old World	Wood borer	Negative
Bruchidae	*Bruchidius incarnatus*	Old World	Stored seeds	Negative
Bruchidae	*Callosobruchus analis*	Old World	Stored seeds	Negative
Bruchidae	*Callosobruchus chinensis*	Old World	Stored seeds	Negative
Bruchidae	*Callosobruchus maculatus*	Africa	Stored seeds	Negative
Bruchidae	*Caryedon serratus*	Asia	Stored seeds	Negative
Carabidae	*Calleida amethystina*	Latin America	Predator	Neutral?
Carabidae	*Selenophorus affinis*	South America	Predator	Positive
Carabidae	*Perigona nigriceps*	Old World	Predator	Neutral?
Cerambycidae	*Batocera rufomaculata*	Old World	Tree borer	Negative
Cerambycidae	*Lissonotus sheperdi*	South America	Tree borer	Neutral?
Cerambycidae	*Oedopeza ocellator*	Latin America	Tree borer	Negative
Cerambycidae	*Phryneta verrucosa*	Africa	Tree borer	Negative
Cerambycidae	*Polyrhaphis spinosa*	South America	Tree borer	Negative ?
Cleridae	*Negrobia rufipes*	Old World	Dry fish & meats	Negative ?
Chrysomelidae	*Chaetocnemus amazona*	South America	Sweet potato pest	Negative
Coccinelllidae	*Curinus coeruleus*	Latin America	Predator	Positive?
Cryptophagidae	*Curelius japonicus*	Asia	Fungivore	Neutral?
Curculionidae	*Araptus xylotrupes*	South America	Plant Pest	Negative
Curculionidae	*Chalcodermus angulicollis*	Latin America	Latin America	Neutral?
Curculionidae	*Coccotrypes carpophagus*	Old World	Nuts and seeds	Negative
Curculionidae	*Cosmopolites sordidus*	Old World	Plant pest	Negative
Curculionidae	*Hypocryphalus mangiferae*	Old World	Mango tree borer	Negative
Curculionidae	*Hypurus bertrandi*	Old World	Leaf miner	Neutral?
Curculionidae	*Sitophilus granarius*	Old World	Stored products	Negative
Curculionidae	*Sitophilus linearis*	Old World	Stored products	Negative
Curculionidae	*Sitophilus oryzae*	Old World	Stored products	Negative
Dermestidae	*Attagenus fasciatus*	New World	Plant pest	Negative ?
Elateridae	*Conoderus ampicollis*	Latin America	Predator	Neutral
Hydrophilidae	*Dactylosternum abdominale*	Afrotropics	Predator on pests	Positive
Nitidulidae	*Carpophilus freemani*	Old World?	Stored corn,etc	Negative
Nitidulidae	*Carpophilus mutilatus*	Old World?	Stored fruits	Negative
Nitidulidae	*Eupraea luteolus*	Old World?	Stored fruits	Negative
Scarabaeidae	*Ataenius crenulatus*	New World	Dung scavenger	Positive
Scarabaeidae	*Ataenius heinekeni*	New World	Litter decomposer?	Neutral
Scarabaeidae	*Macraspis tristis*	Lesser Antiles	Decomposer	Neutral
Scarabaeidae	*Nialaphodius nigrita*	Old World	Dung scavenger	Positive
Scarabaeidae	*Parachalepus barbatus*	Latin America	Defoliator	Neutral?
Scarabaeidae	*Phyllophaga vandinei*	Puerto Rico	Plant pest	Not established?
Scarabaeidae	*Protaetia fusca*	Old World	Defoliator	Negative ?
Silvanidae	*Monanus concinulus*	Asia	Stored products	Negative
Silvanidae	*Oryzaephilus surinamensis*	Old World	Stored products	Negative
Staphylinidae	*Phacophallus parumpunctatus*	Palearctic	Predator on pests	Positive
Tenebrionidae	*Tribolium castaneus*	Old World	Stored products	Negative
Trogossitidae	*Tenebroides mauritanicus*	Old World?	Stored products	Negative

Table 4. Summary distributional groupings of the named indigenous (hypothesized to be naturally occurring and non-endemic) beetles of Barbados.

Distributional Group	Geographic area notes	species
Lesser Antilles and Latin America	Including Central America and/or Mexico; probably suggesting a South American origin	4
Lesser Antilles native	Endemic to Lesser Antilles; originating there	16
Lesser Antilles and South America	Suggesting a South American origin	7
Antilles and North and/or Central America	Suggesting dispersal from the north	6
Widespread Antilles native	Endemic to Greater and Lesser Antilles; originating there	21
Widespread Antilles and Central America	May include Mexico, excluding South America	4
Widespread Antilles and Latin America	Antilles, Central and South America	26
Widespread Antilles and South America	Greater and Lesser Antilles and South America; suggesting a South American origin	18
Widespread New World	All or most of Antilles and North, Central, and South America; with varying northern and southern range limits; possibly partly introduced, especially if associated with humans and tropicopolitan in distribution	55
	Total named indigenous species	157

These are so widespread that some may actually have reached Barbados with at least some aid of human activity. Most of the remaining species have distributions including most of the Antilles and Latin America (26 species) or the Antilles and South America (18 species). The predominant oceanic currents which can aid sea surface dispersal are from the south, from South America. The main direction of winds is from the east from the mid-Atlantic, and these seem less likely to have been of importance in dispersal to Barbados. Twenty-one species are limited to other islands throughout the Antilles and another 16 are limited only to islands of the Lesser Antilles.

This shows the fauna of Barbados is predominantly a widespread one, and can be summarized as mostly an immigrant fauna. Because Barbados is young, and the other West Indian islands and continental margin areas are older, it is these which probably served as the sites of speciation and sources of the species found on Barbados.

Island comparisons. Few other islands have modern summaries and analyses of their beetle faunas with which we can compare Barbados. These are Dominica within the Lesser Antilles (Peck 2006) and Bermuda in the mid Atlantic (Hilburn and Gordon 1989). Comparative data are given in Table 5. They do show a similarity in number of known families, ranging from 39 to 44. Otherwise, because these islands vary greatly in age, area, elevation, and isolation, it should be expected that they show few similarities in total species numbers, number of endemics, and proportions of introduced species. Generally, smaller, younger, and more isolated islands have a poorer and more widely distributed native fauna. The larger and older islands have had more time to assemble a diversity of species and possibly more ability to resist new arrivals.

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Table 5. Comparison of the faunal structure of oceanic island beetle fauna of Barbados with Dominica (Peck 2006) and Bermuda (Hilburn and Gordon 1989). Only Bermuda can be considered to now have a well-known fauna.

Island	Age (million years)	Area and elevation	Isolation: (nearest large neighbour as faunal source)	Number families	Total species	Endemic species	Introduced species; % of total fauna
Bermuda	≈?0.1 myr	54 km²; 74 m	North Carolina, 1040 km WNW	44	228	0	104; 46%
Barbados	≈?1 myr	445 km²; 340 m	St. Vincent, 260 km W	40	254	9?	66; 28%
Dominica	≈?15 myr	751 km²; 1447 m	Guadeloupe, 45 km N	42	361	62	23; 6.4%

ogy, University of West Indies, Cave Hill, Barbados, allowed study of the Department's insect collection. Additional beetle information or help with identifications were provided by Robert S. Anderson (Curculionoidea excluding Scolytinae), G. Ball (Carabidae), Charles Bellamy (Buprestidae), Don A. Bright (Scolytinae), J. Howard Frank (Staphylinidae), Henry F. Howden (Scarabaeidae), Alexander Konstantinov (Chrysomelidae), Steven Lingafelter (Cerambycidae, Chrysomelidae), Alfred F. Newton (Staphylinidae), Ed Riley (Chrysomelidae), Paul Skelley (Scarabaeidae), Warren Steiner (Tenebrionidae), and Natalia Vandenberg (Coccinellidae). The manuscript was reviewed and improved by comments from Hume Douglas and Andrew Smith. The author will appreciate and acknowledge notification of errors, omissions, and literature that was missed.

A critical systematic listing of the beetles known from Barbados

Suborder Adephaga
10. Family Carabidae, The ground beetles

Subfamily Carabinae
Tribe Carabini

Calosoma (*Castridia*) *alternans* (Fabricius) 1792: 146 (*Carabus*); Blackwelder 1944-1957: 20; Gidaspow 1963: 298; apparently overlooked in Erwin and Sims 1984: 423; Bennett and Alam 1985: 20. **Distribution.** Widespread Antilles and South America. Barbados (BMAC), Barbuda, Dominica, Jamaica, Martinique, St. Barthelemy, St. Croix, St. Vincent. Mexico to Colombia and Trinidad, northern Brazil (nominate subspecies) and *S. a. granulatus* Perty throughout most of Brazil, to Bolivia, Paraguay, and Uruguay. Greater Antilles records are in error (Gidaspow 1963: 300). **Bionomics.** Predaceous on Lepidoptera larvae and pupae of *Anomis* spp., *Spodoptera* spp., *Diatraea saccharalis, Plutella xylostella, Trichoplusia ni, Pseudoplusia includens, Anticarsia gemmatalis*, etc. Adults often appear in numbers at lights at the start of the rainy season.

Subfamily Cicindelinae

The Barbados report of *Megacephala sobrina* Dejean 1831: 202 (Ivie 1983: 194; Bennett and Alam 1985: 19) cannot be confirmed and is here considered to be an error. The species is not known from elsewhere in the Lesser Antilles. It is reported to occur on the islands of Anegada, Antigua, Cuba, Hispaniola, Puerto Rico, St. Barthelemy, St. Croix, St. John, St. Martin, St. Thomas and from Mexico through Panama to Curacao, Venezuela, Brazil, and Argentina (Blackwelder 1944-1957: 13; Wagenaar Hummelinck 1955: 108; Ivie 1983: 194; Balazuc and Chalumeau 1978: 19-20; Freitag 1992: 154).

Table 6. Classification and family arrangement for the annotated list of the beetle families known from Barbados, from the world list by Arnett et al. 2002, with summary numbers of number of genera and species.

SUBORDER ADEPHAGA

10. Carabidae (+Cicindelinae); 14 genera, 19 species.
12. Haliplidae; 1 genus, 1 species
17. Dytiscidae; 3 genera, 3 species.

SUBORDER POLYPHAGA

SERIES STAPHYLINIFORMIA

Superfamily Hydrophiloidea

18. Hydrophilidae; 7 genera, 10 species.
21. Histeridae; 3 genera, 3 species.

Superfamily Staphylinoidea

22. Hydraenidae; 1 genus, 1 species.
25. Leiodidae; 1 genus, 1 species.
28. Staphylinidae (+Scaphidiinae and Pselaphinae); 17 genera, 23 species.

SERIES SCARABAEIFORMIA

Superfamily Scarabaeoidea

33. Trogidae; 1 genus, 1 species.
38. Hybosoridae; 1 genus, 1 species.
41. Scarabaeidae; 10 genera, 21 species.

SERIES ELATERIFORMIA

Superfamily Buprestoidea

51. Buprestidae; 1 genus, 2 species.

Superfamily Elateroidea

69. Elateridae; 4 genera, 5 species.
76. Lampyridae; 2 genera, 2 species.

SERIES BOSTRICHIFORMIA

79. Jacobsoniidae; 1 genus, 1 species.

Superfamily Bostrichoidea

82. Dermestidae; 3 genera, 3 species.
83. Bostrichidae (+Lyctinae); 6 genera, 6 species.
84. Anobiidae (+Ptininae); 3 genera, 4 species.

SERIES CUCUJIFORMIA

Superfamily Lymexyloidea

85. Lymexylidae; 1 genus, 1 species.

Superfamily Cleroidea

87. Trogossitidae; 1 genus, 1 species.
89. Cleridae; 1 genus, 1 species.

Superfamily Cucujoidea

97. Nitidulidae; 4 genera, 5 species.
98. Smicripidae; 1 genus, 1 species.
102. Silvanidae; 4 genera, 4 species.
107. Phalacridae; 2 genera, 3 species.
110. Cryptophagidae; 1 genus, 1 species.
112. Languriidae; 1 genus, 1 species.
121. Coccinellidae; 19 genera, 25 species.
122. Corylophidae; 2 genera, 6 species.

Superfamily Tenebrionoidea

124. Mycetophagidae; 1 genus, 1 species.
131. Rhipiphoridae; 1 genus, 1 species.
139. Tenebrionidae (+Alleculinae and Lagriinae); 8 genera, 10 species.

Table 6. Continued

142. Oedemeridae; 2 genera, 2 species.
144. Meloidae; 2 genera, 2 species.
151. Anthicidae; 1 genus, 1 species.
Superfamily Chrysomeloidea
154. Cerambycidae; 24 genera, 28 species.
155. Bruchidae; 4 genera, 7 species.
158. Chrysomelidae; 19 genera, 25 species.
Superfamily Curculionoidea
160. Anthribidae; 1 genus, 1 species.
166. Curculionidae (+Platypodinae and Scolytinae); 23 genera, 28 species.

Tribe Cicindelinae

Cicindela suturalis Fabricius 1898: 62; Leng and Mutchler 1914: 393; Blackwelder 1944-1957: 20, Tucker 1952: 340; Balazuc and Chalumeau 1978: 19-20; Ivie 1983: 197; Bennett and Alam 1985: 19; Freitag 1992: 157. **Distribution.** Widespread Antilles and South America. Antigua, Barbados, Barbuda, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Martinique, Puerto Rico, St. Barthelemy, St. John, St. Martin, St. Thomas, St. Vincent. Widespread South America. **Bionomics.** Barbados is reported as having the forms *suturalis* and *hebraea* (both on Calais Beach). Predaceous on various insects; in open habitats and on beaches.

Subfamily Scaritinae
Tribe Clivinini

Clivina (*Paraclivina*) *tuberculata* Putzeys 1846: 615; Blackwelder 1944-1957: 50; Nichols 1988: 95, 119. **Distribution.** Lesser Antilles and South America. Barbados, Dominica, Guadeloupe, Martinique, St. Lucia. South America. **Bionomics.** Living in burrows in soft moist soil near fresh water.

Halocoryza arenaria (Darlington) 1939: 84 (*Schizogenius*); Nichols 1988: 90, 117. **Distribution.** Bahamas, Barbados, Cayman Islands, Cuba, Dominica, Martinique, Mustique, St. Croix, St. John, St. Lucia, St. Vincent. Mexico, USA (south FL), Panama, Brazil; Cameroon. **Bionomics.** Found on marine beaches in the intertidal zone, in mangrove swamps; halobiont.

Subfamily Trechinae
Tribe Bembidiini
Subtribe Tachyina

Micratopus sp. "croix" undescribed. **Distribution.** Barbados (det. T. Erwin, SBPC, USNM), Hispaniola, Jamaica, St. Lucia (FSCA). **Notes.** Widespread on Barbados and common at uv lights.

Micratopus sp. "cayman" undescribed. **Distribution.** Barbados (det. T. Erwin, SBPC, USNM); other unspecified islands.

Subfamily Harpalinae
Tribe Harpalini

Athrostictus sp., Bennett and Alam 1985: 19. **Distribution.** Barbados. **Bionomics.** Probably predacious on diamond back moth (*Plutella xylostella*), *Ascia monuste monuste* and other cabbage pests. *Athrostictus iridescens* Chaudoir 1843: 783 is recorded from Guadeloupe.

Selenophorus affinis Dejean 1831: 822; Blackwelder 1944-1957: 49; Bennett and Alam 1985: 20 (possible). **Distribution.** Barbados (introduction or possible misidentification, BMAC, det. R. Madge). Panama, Colombia, French Guiana. **Bionomics.** Predaceous on insects attacking sugarcane, sweet potato, cotton, maize and vegetables. A species in this genus was reported as *Harpalus* sp. (Bennett and Alam 1985: 19).

Selenophorus alternans Dejean 1829: 49. =*Selenophorus macleayi* Kirby 1837: 50; Blackwelder 1944-1957: 318; Bennett and Alam 1985: 20; Ball 1992: 85. **Distribution.** Widespread Antilles and South America. Bahamas, Barbados, Caymans, Cuba, Guadeloupe, Hispaniola, Jamaica, Puerto Rico. Mexico to Venezuela to Uruguay. **Bionomics.** Predaceous on insects attacking sugarcane, sweet potato, cotton, maize and vegetables

Selenophorus barbadensis Ball and Shpley in Ball 1992: 100. **Distribution.** Barbados, endemic. **Bionomics.** Taken in light traps.

Selenophorus parvus Darlington 1934: 35; Blackwelder 1944-1957: 50; Bennett and Alam 1985: 20. **Distribution.** Widespread Antilles native. Barbados (BMAC, det. R. Madge), Leeward Islands, Puerto Rico, Windward Islands (individual islands not given). **Bionomics.** Predaceous on insects attacking sugarcane, sweet potato, cotton, maize and vegetables.

Selenophorus striatopunctatus Putzeys 1878: 33; Bennett and Alam 1985: 20; Ball 1992: 85. **Distribution.** Antilles and North and Central America. Bahamas, Barbados, Caymans, Cuba, Jamaica, Hispaniola, Leeward Islands, Puerto Rico, Windward Islands. SE USA, Central America. **Bionomics.** Predaceous on insects attacking sugarcane, sweet potato, cotton, maize and vegetables.

Tribe Pentagonicini

Pentagonica maculicornis Bates 1883: 217; Reichardt 1968: 150; Bell 1985: 322. = *Pentagonica divisa* Darlington 1934: 121; Blackwelder 1944-1957: 63; Bennett and Alam 1985: 20. **Distribution.** Widespread Antilles and South America. Barbados (BMAC), Dominica, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Lucia, St. Vincent. Costa Rica to Venezuela and Trinidad. **Bionomics.** In sugarcane fields; probably predacious on *Diatraea saccharalis* and other pests.

Tribe Perigonini

Perigona nigriceps Dejean 1831: 44; Blackwelder 1944-1957: 44; Erwin and Sims 1984: 443; Bennett and Alam 1985: 20; Turnbow and Thomas 2008: 14. **Distribution.** Bahamas (Andros, South Bimini), Barbados (SBPC; BMAC, det. R. Madge), Cuba, Dominica, Guadeloupe, Martinique, Puerto Rico, St. Vincent (SBPC). Canada (PQ), USA (NH-FL-CA); introduced. An Old World (probably Asian) species widely distributed by commerce in the New World. **Bionomics.** Found around human dwellings, and probably living in decaying plant matter in and around gardens; collected at uv light. In sugarcane fields; probably predacious on *D. saccharalis* and other pests in Barbados.

Tribe Ctenodactylini

Leptotrachelus sp. possibly *L. dorsalis* Fabricius 1801: 220 ; Blackwelder 1944-1957: 68; Bennett and Alam 1985: 19. **Distribution.** Barbados. *Leptotrachelus dorsalis* itself is recorded from Cuba and USA (SC, KS) (Erwin and Sims 1984: 442). **Bionomics.** Predaceous on sugarcane thrips (*Fulmekiola serrata*).

Tribe Lebiini

Apenes marginalis Dejean 1831: 315; Blackwelder 1944-1957: 62; Tucker 1952: 340; Erwin and Sims 1984: 445; Erwin undated; Bennett and Alam 1985: 19. **Distribution.** Widespread Antilles and South America. Barbados (det. R. Madge,BMAC), Dominica, Guadeloupe, Puerto Rico. South America. A valid record even though Ball (1992) does not list it for the West Indies. **Bionomics.** Collected from sugarcane and vegetable fields. Probably predacious on insects attacking these crops.

Calleida amethystina Fabricius 1787, 203; Casale 1998: 419. **Distribution.** Barbados (det. T. L. Erwin USNM), introduced; also to St. Lucia, St. Vincent. From Mexico to Bolivia and Brazil, not in the West Indies according to Erwin and Sims 1984: 446. **Bionomics.** A probable recent introduction.

Tribe Zuphiini

Pseudaptinus insularis Mutchler 1934: 4, Blackwelder 1944-1957: 69; Erwin and Sims 1984: 441; Bennett and Alam 1985: 20. **Distribution.** Widespread Antilles native. Barbados (BMAC, det. R. Madge), Cuba, Puerto Rico. **Bionomics.** In sugarcane fields; probably predacious on *D. saccharalis* and other pests.

Tribe Galeritini

Galerita tristis Reiche 1842: 273; Reichardt 1967: 96. =*Galerita unicolor* Latreille and Dejean 1823: 117 [distributed in Cuba (mislabeled?) and South America, Reichardt 1967: 105]; Fleutiaux and Sall 1889: 359; Blackwelder 1944-1957: 69; Tucker 1952: 340; Bennett and Alam 1985: 15. **Distribution.** Widespread Antilles and Latin America. Barbados, Dominica, Guadeloupe, Hispaniola, Jamaica. El Salvador to Panama, French Guiana, south to Paraguay and Argentina. **Bionomics.** An arboreal predator.

12. Family Haliplidae, The crawling water beetles

Haliplus gravidus Aubé 1838: 26; Blackwelder 1944-l957: 72; Vondel and Spangler 2008: 94. =*Haliplus robustus* Sharp 1877: 120 of Antigua; Fleutiaux and Sallé 1890: 369 of Guadeloupe. **Distribution.** Widespread Antilles and Latin America. Antigua, Barbados, Guadeloupe, Marie Galante, Puerto Rico, St. Lucia, St. Martin. Mexico, Guatemala, Costa Rica, Panama, Colombia, Bonaire, Curaçao, Margarita to Venezuela and Trinidad, south to Argentina, Bolivia, Brazil; Galapagos Islands. **Notes**. These beetles live among aquatic vegetation at the edges of ponds, lakes, and streams. The adults are slow moving, and the larvae feed by sucking on algal cells.

17. Family Dytiscidae, The predacious diving beetles

Subfamily Copelatinae

Copelatus posticatus (Fabricius) 1801: 268 (*Dytiscus*); Blackwelder 1944-1957: 81. **Distribution.** Widespread Antilles and Latin America. Barbados (SBPC), Cuba, Dominica, Guadeloupe, Hispaniola, Puerto Rico, St. Lucia (USNM), St. Vincent. Mexico to Panama to Venezuela, French Guiana and Brazil. **Bionomics**. Common at light traps, often without near-by standing water.

Subfamily Dytiscinae
Tribe Eretini

Eretes occidentalis Erichson 1847: 73 ; Larson et al. 2000: 829. =*Eretes sticticus* (Linnaeus) 1767: 666 (*Dytiscus*) [limited to Old World, Nilsson 2001: 99]; Bennett and Alam 1985: 20; Tucker 1952: 340; Turnbow and Thomas 2008: 36. **Distribution.** Widespread New World. Bahamas (Great Inagua), Barbados, Guadeloupe, Puerto Rico, St. Barthelemy; the only New World species in the genus, widespread from southern USA to Peru, including the West Indies and Galapagos Islands. **Bionomics.** An inhabitant of temporary ponds and pools in dry regions; colonizing temporary water bodies; often attracted to lights; larval stages are completed in 9-10 days.

Tribe Cybistrini

Megadytes (*Bifurcitus*) *giganteus* (Laporte) 1834: 99 (*Dytiscus*); Blackwelder 1947: 80; Bennett and Alam 1985: 20; Nilsson 2001: 94. **Distribution.** Widespread Antilles and Latin America. Bahamas, Antigua, Barbados, Cuba, Guadeloupe. Mexico to Argentina. **Bionomics.** The larvae of this large beetle are predacious on tadpoles of the giant toad, *Bufo marinus*. This beetle is apparently a serious limiting factor to population build-up of this agriculturally beneficial amphibian.

Suborder Polyphaga
Series Staphyliniformia
Superfamily Hydrophiloidea

18. Family Hydrophilidae, The water scavenger beetles

Subfamily Hydrophilinae
Tribe Hydrophilinae

Enochrus (*Methydrus*) *bartletti* Short 2004: 352. =*Enochrus orchymonti* Mouchamps 1956: 10 (of South America); misidentification in Bennett and Alam 1985: 20; Turnbow and Thomas 2008: 40. **Distribution.** Widespread Antilles native. Bahamas (Great Inagua), Barbados (SBPC), Cuba, Dominica, Hispaniola, Montserrat, Puerto Rico, St. Croix, St. Lucia, St. John, St. Thomas. **Bionomics.** Adults and larvae are aquatic.

Hydrochara sp., Bennett and Alam 1985: 20. **Distribution.** Barbados. **Bionomics.** Larvae may be predacious in aquatic habiltats.

Hydrophilus (*Hydrophilus*) *ensifer duvali* Hansen 1999: 229, replacement name. =*Hydrophilus ater* Olivier 1792: 125; Blackwelder 1944-1957: 171; Tucker 1952: 341; Bennett and Alam 1985: 20; Turnbow and Thomas 2008: 41. **Distribution.** Widespread Antilles and Latin America. The subspecies is reported from Bahamas (Andros, North Bimini, San Salvador, South Bimini), Barbados, Cuba, Culebra, Hispaniola, Puerto Rico, St. Lucia, St. Thomas. The nominate subspecies is widespread in South America. **Bionomics.** Larvae prey upon tadpoles of *Bufo marinus*.

Hydrophilus (Hydrophilus) insularis Laporte 1840: 50; Leng and Mutchler 1914: 399 [as *Stethorus insularis*]; Hansen 1999: 230; Turnbow and Thomas 2008: 41. **Distribution.** Antilles and North and/or Central America. Bahamas (Great Inagua, San Salvador), Barbados (det. P. J. Spangler, BMAC), Cuba, Guadeloupe, Hispaniola. Southern USA to Costa Rica. The preceeding Barbados record could be a misidentification for this species; verification is needed.

Tropisternus (Pristosternus) apicipalpis (Chevrolat) 1834: no. 40 (*Hydrophilus*); Blackwelder 1944-1957: 170; Tucker 1952: 341; Bennett and Alam 1985: 20. **Distribution.** Widespread New World. Barbados, Cuba, St. Vincent. Widespread; USA (AZ) to Argentina, Bolivia.

Tropisternus (Tropisternus) lateralis lateralis (Fabricius) 1775:228 (*Hydrophilus*); Leng and Mutchler 1914: 406; Blackwelder 1944-1957: 170; Tucker 1952: 341; Bennett and Alam 1985: 20; Hansen 1999: 222; Turnbow and Thomas 2008: 42. **Distribution.** Widespread New World. Antigua, Bahamas (Andros, Great Inagua, South Bimini), Barbados, Barbuda, Cuba, Dominica, Grand Cayman, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Kitts, St. Lucia, St. Thomas. Other subspecies range from USA to Mexico to Brazil, Uruguay, Argentina, and Galapagos Islands.

Subfamily Sphaederiinae
Tribe Coelostomatini

Dactylosternum abdominale (Fabricius) 1792: 79 (*Sphaeridium*); Leng and Mutchler 1917: 197; Blackwelder 1944-1957: 173; Tucker 1952: 341; Bennett and Alam 1985: 20; Hansen 1999: 254. **Distribution.** Introduced to New World. Barbados, Cuba, Dominica, Guadeloupe, Jamaica, Montserrat, Puerto Rico. USA, Mexico to Brazil, Old World. Cosmopolitan, native to Afrotropics (Hansen 1999: 254). There are other West Indian species (Hansen 1999, Smetana 1978). **Bionomics.** Predaceous on banana borer (*Cosmopolites sordidus*). Occurring in wet decaying organic matter. Purposely introduced as a predator to some islands.

Dactylosternum sp., Bennett and Alam 1985: 20. **Distribution.** Barbados. More than the above species may be present on Barbados. **Bionomics.** In chicken manure; probably feeding on insects breeding therein.

Phaenonotum exstriatum (Say) 1835: 171 (*Hydrophilus*); Blackwelder 1944-1957: 173; Hansen 1999: 251. **Distribution.** Widespread New World. Barbados (SBPC), Cuba, Dominica, Guadeloupe, Jamaica, Puerto Rico, St. Vincent (SBPC). Argentina, Brazil, Central America, USA (Smetana 1978).

Tribe Megasternini

Oosternum sharpi Hansen 1999b: 242, replacement name. =*Oosternum costatum* Sharp 1882: 113; Blackwelder 1944-1957: 173; Peck 1981; Bennett and Alam 1985: 20. **Distribution.** Widespread New World. Barbados, Cuba, Puerto Rico. USA to Mexico to Panama and Venezuela. Introduced to Hawaii and Old World tropics. **Bionomics.** Troglophile scavenger in bat guano in Coles Cave, Barbados; otherwide found in wet decaying vegetation.

21. Family Histeridae, The clown beetles

Subfamily Abraeinae
Tribe Acritini

Acritus strigipennis Bickhardt 1912: 230; Leng and Mutchler 1914: 418; Mazur 1984: 21. **Distribution.** Barbados; possible endemic.

Subfamily Dendrophilinae
Tribe Paromalini

Carcinops troglodytes (Paykull) 1811: 46 (*Hister*); Blackwelder 1944-1957: 180; Bennett and Alam 1985: 20; Mazur 1984: 129. **Distribution.** Widespread Antilles and South America. Barbados (det. R. Madge, BMAC), Cuba, Grenada, Hispaniola, Puerto Rico, St. Vincent. South America south to Argentina. Tropicopolitan. **Bionomics.** Predaceous on dipterous and other insects breeding in fowl dung.

Subfamily Histerinae
Tribe Histerini

Pactolinus chinensis (Quensel) in Schönherr 1806: 88b (*Hister*); Bennett and Alam 1985: 20 [as *Hister chinensis*]; Mazur 1984: 180. **Distribution.** Barbados (introduced, not established). Native to China, east India, Pacific Islands, Australia; introduced for biocontrol to Hawaii and Trinidad. **Bionomics.** Imported by CIBC Trinidad in 1950 to control houseflies.

22. Family Hydraenidae, The minute moss beetles

Subfamily Hydraeninae

Hydraena particeps Perkins 1980: 142. **Distribution.** Widespread Antilles and Latin America. Barbados (new record, det. P. Perkins, SBPC), Grenada. Honduras to Panama, Venezuela, Trinidad. **Bionomics**. This family occurs in aquatic and semi-aquatic habitats, in sand and gravel along stream edges, in aquatic vegetation, and brackish pools.

Superfamily Staphylinoidea

25. Family Leiodidae. The round fungus beetles

Subfamily Leiodinae

Aglyptinus sp., undescribed species, SBPC. **Distribution.** Barbados. **Bionomics.** Collected on soft fungi in Turners Hall Woods. **Notes**. Species are known on other Lesser Antilles islands.

28. Family Staphylinidae, The rove beetles

Herman (2001) is a world catalogue of Staphylinidae, excluding Pselaphinae, Paederinae, and Aleocharinae. The Lessser Antilles genera can mostly be identified with the keys in Navarette-Heredia et al. (2002).

Subfamily Tachyporinae
Tribe Tachyporini

Cilea silphoides (Linnaeus) 1767: 684 (*Staphylinus*); Blackwelder 1944-1957: 153; Bennett and Alam 1985: 21; Herman 2001: 704. **Distribution.** Widespread New World. Barbados, Grenada, Guadeloupe, Puerto Rico, St. Thomas, St. Vincent. A cosmopolitan species, widespread in USA, South America, including Trinidad; Old World. **Bionomics.** In chicken manure and cow dung.

Tribe Mycetoporini

Bryoporus sp., Bennett and Alam 1985: 21. **Distribution.** Barbados. **Bionomics.** From rotting foliage of Beta vulgaris.

Subfamily Aleocharinae

Genus and spp. undetermined; Peck 1981; Bennett and Alam 1985. **Distribution.** Barbados. In guano in Coles cave (predators on mites).

Tribe Hypocyphtini

Oligota barbadorum Frank 1972: 137; Bennett and Alam 1985: 21 [as *Oligota oviformis* Casey]. **Distribution.** Barbados; endemic. **Bionomics.** Predaceous on *Tetranychus* spp., *Tetranychus tumidus, Saccharicoccus sacchari, C. carinata, Fulmekiola serrata,* and tingid Hemiptera on various crop plants.

Subfamily Osoriinae
Tribe Thoracophorini

Clavilispinus mariannae Irmler 2001: 350. **Distribution.** Barbados; single island endemic.

Subfamily Oxytelinae
Tribe Thinobiini

Carpelimus aridius (Jacquelin du Val) 1857: 43 (*Troglophloeus*); Blackwelder 1943: 73; Blackwelder 1944-1957: 102; Tucker 1952: 341; Bennett and Alam 1985: 21; Herman 2001: 1640. **Distribution.** Widespread Antilles and South America. Barbados, Cuba, Grenada, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Vincent. Trinidad. **Bionomics.** Found near streams and ponds and in flight at dusk.

Carpelimus correctus Blackwelder 1943: 64; Tucker 1952: 341; Bennett and Alam 1985: 21; Herman 2001: 1648.

Distribution. Widespread Antilles and South America. Barbados, Cayman Islands, Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Lucia, St. Vincent. Trinidad. **Bionomics.** Found under stones and sand along streams, in dung, and flying at dusk.

Carpelimus flavipes (Erichson) 1840: 808 (*Troglophloeus*); Blackwelder 1943: 77; Tucker 1952: 341; Bennett and Alam 1985: 21; Herman 2001: 1660. **Distribution.** Widespread Antilles and Central America. Bahamas, Barbados, Cuba, Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Lucia, St. John, St. Thomas, St. Vincent. Mexico. **Bionomics.** In chicken manure and under litter, and along streams and ponds.

Trogactus cornucopius (Blackwelder) 1943:66 (*Carpelimus*); Herman 1970: 2001: 1777. **Distribution.** Lesser Antilles Native. Barbados, Grenada (type locality), Guadeloupe, St. Croix, St. Lucia, St. Vincent. **Bionomics.** Collected at streamside.

Tribe Oxytelini

Oxytelus incisus Motschulsky 1857: 504; Blackwelder 1943: 96; Tucker 1952: 341; Woodruff et al. 1998: 40; Bennett and Alam 1985: 21; Herman 2001: 1433. **Distribution.** Widespread New World. Antigua, Barbados, Bermuda, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Mona Island, Montserrat, Mustique, Puerto Rico, St. Croix, St. Kitts, St. Lucia, St. Thomas, St. Vincent. Colombia, Costa Rica, Panama, Trinidad, Tobago, USA (FL, TX); Old World; Africa, Orient; circumtropical/subtropical. **Bionomics.** Perhaps the most common and widespread staphylinid in the West Indies. It has been taken wherever cattle or horses are kept, and collected from dung, manure, excrement, in bat guano, flying at dusk, and on muddy banks of ponds.

Platystethus spiculus Erichson 1840: 784; Blackwelder 1943: 110; Tucker 1952: 341; Bennett and Alam 1985: 21; Herman 2001: 1487. **Distribution.** Widespread New World. Antigua, Barbados, Bermuda, Carriacou, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Lucia, St. Vincent. USA (CA-TX-FL) through Panama to Trinidad, Venezuela and Argentina; introduced to Society Islands. **Bionomics.** Collected from dung and manure, in plant refuse, flying at dusk, and flying to lights.

Subfamily Paederinae
Tribe Paederini

Lithocharis dorsalis Erichson 1840: 616; Blackwelder 1943: 247; Bennett and Alam 1985: 21. **Distribution.** Widespread Antilles and South America. Antigua, Barbados, Cuba, Grenada, Guadeloupe, Hispaniola, Jamaica, Montserrat, Puerto Rico, St. Croix, St. Lucia, St. Vincent. Trinidad. **Bionomics.** A cosmopolitan species; in cow dung and other decaying plant materials.

Lithocharis limbata Erichson 1840: 621; Blackwelder 1943: 246; Tucker 1952: 341; Bennett and Alam 1985: 21. **Distribution.** Widespread Antilles and Latin America. Barbados, Dominica, Grenada, Guadeloupe, Hispaniola, Martinique, Puerto Rico, St. Croix, St. Lucia, St. Vincent. Guatemala, Panama, Colombia, Trinidad. A cosmopolitan species. **Bionomics.** Collected in dung, manure, excrement, rotten fruit, decaying cocoa pods, and fermenting coconut husks.

Lithocharis ochracea (Gravenhorst) 1802: 58 (*Paederus*); Blackwelder 1943: 242; Tucker 1952: 341; Bennett and Alam 1985: 21. **Distribution.** Widespread New World. Antigua, Barbados, Dominica, Grenada, Guadeloupe, Jamaica, Puerto Rico, St. John, St. Kitts. Brazil, Chile, Guatemala, Mexico, USA (CA); Africa, Orient, Europe; cosmopolitan. **Bionomics.** Collected on horse manure, cattle dung, in decaying cocoa pods, and flying at dusk.

Lithocharis sororcula Kraatz 1859:140; Blackwelder 1943: 241; Tucker 1952: 341; Bennett and Alam 1985: 21. **Distribution.** Widespread Antilles native. Antigua, Barbados, Grenada, Guadeloupe, Jamaica, Montserrat, Puerto Rico, St. Croix, St. Kitts, St. Lucia, St. Vincent. Orient; cosmopolitan. **Bionomics.** In cow and horse dung, rotting grass, flying at dusk.

Scopaeus pygmaeus Erichson 1840: 608; Blackwelder 1943: 287; Tucker 1952: 341; Bennett and Alam 1985: 21. **Distribution.** Widespread Antilles native. Barbados, Cayman Islands, Grenada, Jamaica, Mustique, Puerto Rico, St. Croix, St. Lucia, St. Vincent. **Bionomics.** Under debris on beaches and shores of ponds and streams.

Subfamily Staphylininae
Tribe Diochini

Diochus nanus Erichson 1839: 301; Blackwelder 1943: 455; Tucker 1952: 341; Bennett and Alam 1985: 21; Herman 2001: 2446. **Distribution.** Widespread New World. Barbados, Cuba, Grenada, Guadeloupe, Hispaniola, Jamaica, Mustique, Puerto Rico, St. Croix, St. Lucia, St. Vincent. Widespread USA to Mexico to Trinidad, Argentina and Brazil. Cosmopolitan. **Bionomics.** Found under sugar-cane trash, in other rotting plant matter and dung, at stream sides, and flying at dusk.

Tribe Xantholinini

Neohypnus attenuatus (Erichson) 1839: 330 (*Xantholinus*); Blackwelder 1944-1957: 147; Tucker 1952: 341; Smetana 1982: 201; Bennett and Alam 1985: 21; Herman 2001: 3708. **Distribution.** Widespread New World. Antigua, Barbados, Cuba, Dominica, Grenada, Guadeloupe, Jamaica, Montserrat, Puerto Rico, St. Kitts, St. Thomas, St. Vincent. USA (CA-TX-FL), to Venezuela, Tobago, Trinidad, to Argentina, and Paraguay. Introduced to St. Helena. **Bionomics.** Collected from dung, manure, carrion, decaying grass, and at edge of streams; from rotting foliage of *Beta vulgaris*.

Phacophallus parumpunctatus (Gyllenhal) 1827: 481 (*Staphylinus*); Blackwelder 1943: 494 [as *Leptacinus parumpunctatus*); Tucker 1952: 341; Bennett and Alam 1985: 21; Herman 2001: 3738. **Distribution.** Antigua, Bahamas, Barbados (introduced), Cuba, Grenada, Jamaica, Puerto Rico, St. Kitts, St. Vincent. Widespread: USA-Canada; Africa; Asia; Pacific Islands. Cosmopolitan; native to Palearctic region; now widely distributed in North, but seemingly not in Central and South America (Smetana 1982:108). **Bionomics.** In decaying organic matter, especially in synanthropic situations; in chicken manure and cow dung.

Tribe Staphylinini

Cafius bistriatus (Erichson) 1840: 502 (*Philonthus*); Blackwelder 1943: 438; Tucker 1952: 341; Bennett and Alam 1985: 21; Woodruff et al. 1998: 42; Frank et al. 1986:149; Herman 2001: 2569. **Distribution.** Widespread New World. Antigua, Bahamas, Barbados, Carriacou, Cuba, Dominica, Grenada, Guadeloupe, Jamaica, Mona Island, Montserrat, Puerto Rico, St. Croix, St. John, St. Kitts, St. Lucia, St. Thomas. East coast Canada (PQ) and USA (widespread) to coastal Venezuela, plus Tobago, Trinidad. **Bionomics.** Found under seaweed and drift on beaches.

Neobisnius ludicrus (Erichson) 1840:514 (*Philonthus*); Bennett and Alam 1985: 21; Frank 1981: 20; Herman 2001: 2708. Records for Greater Antilles and Virgin Islands refer to *Neobisnius humilis* (Erichson) 1840: 512 (*Philonthus*); Frank 1981: 18. =*Erichsonius humilis* Erichson, Blackwelder 1943: 441; Tucker 1952: 341; Bennett and Alam 1985: 21; Frank 1981: 18. **Distribution.** Widespread New World. Barbados, Grenada, St. Lucia, St. Vincent. Widespread from southeastern USA to Mexico, to Trinidad, Bolivia and Brazil. Not in Greater Antilles. **Bionomics.** Collected at dung and manure, sides of ponds and streams, and flying at dusk.

Philonthus hepaticus Erichson 1840: 451; Blackwelder 1943: 401, Bennett and Alam 1985: 2; Smetana 1995: 175; Herman 2001: 2837. **Distribution.** Widespread New World. Antigua, Bahamas, Barbados, Carriacou, Cuba, Dominica, Guadeloupe, Hispaniola, Jamaica, Les Saintes, Montserrat, Puerto Rico, St. Croix, St. Kitts, St. Thomas, St. Vincent, Canada and USA (widespread) to Panama to Tobago, Trinidad, south to Argentina and Chile; Australia. **Bionomics.** Collected in dung, manure, excrement, from under seaweed on the beach, from decaying forest debris, and flying at dusk.

Philonthus ventralis (Gravenhorst) 1802: 174 (*Staphylinus*); Blackwelder 1943: 404; Tucker 1952: 341; Woodruff et al. 1998: 43; Bennett and Alam 1985: 21; Smetana 1995: 190; Herman 2001: 2996. **Distribution.** Widespread New World. Antigua, Barbados, Cayman Islands, Cuba, Culebra, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Mona Island, Montserrat, Puerto Rico, St. Croix, St. Kitts, St. Lucia, St. Thomas, St. Vincent. Canada and USA (widespread) to Tobago, Trinidad, French Guiana. Cosmopolitan; Africa, Asia, Europe. **Bionomics.** Collected in fowl dung, manure, from rotting plant debris, in wet habitats and flying at dusk.

Series Scarabaeiformia
Superfamily Scarabaeoidea

33. Family Trogidae, The skin beetles

Omorgus suberosus (Fabricius) 1775: 31 (*Trox*); Blackwelder 1944-1957: 219; Fleutiaux et al. 1947: 25, Tucker 1952: 342; Vaurie 1955: 106; Bennett and Alam 1985: 21. **Distribution.** Widespread New World. Bahamas, Barbados, Cuba, Dominica, Guadeloupe, Hispaniola, Jamaica, Marie Galante, Martinique, Puerto Rico, St. Vincent. Widespread in New World; USA to Colombia, Galapagos Is-

lands, Argentina and Brazil (Vaurie 1955: 106). **Bionomics**. In Barbados possibly predacious on eggs of *Schistocerca pallens* and other grasshoppers; also feeds on dry skin, hair, feathers, carcasses, hides, hooves, etc.

38. Family Hybosoridae, The hybosorid scarab beetles

Anaides vartorellii Ocampo 2006: 65; Bennett and Alam 1985: 21 [as *Anaides* sp.]. **Distribution.** Barbados; endemic. **Bionomics.** Taken in carrion and baited pitfall traps in Turners Hall Woods and Welchman Hall Gully (SBPC).

41. Family Scarabaeidae, The scarab beetles

Subfamily Aphodiinae
Tribe Aphodiini

Nialaphodius nigrita (Fabricius) 1801: 73 (*Aphodius*); Gordon and Skelley 2007: 265; Turnbow and Thomas 2008: 49. =*Aphodius cuniculus* Chevrolat 1864: 411, Bennett and Alam 1985: 22; Woodruff et al. 1998: 32; Chalumeau 1983: 58 [all as *Aphodius* (*Nialus*)]; generic synonomy in Skelley et al. 2007. **Distribution.** Antigua, Bahamas (New Providence), Barbados, Carriacou, Cuba, La Désirade, Dominica, Grenada, Guadeloupe, Les Saintes, Jamaica, Marie-Galante, Martinique, Montserrat, Mustique, St. Croix, St. John, St. Kitts, St. Lucia, St. Thomas, St. Vincent, Tortola, Vieques. Widespread southern USA, Mexico to widespread South America, Tobago. An introduced Afro-tropical Old World species; worldwide in tropics and subtropics. **Notes.** Common in cow dung.

Tribe Eupariini

Ataenius beattyi Chapin 1940: 17; Blackwelder 1944-1957: 213; Bennett and Alam 1985: 22; Stebnicka 2007: 57. **Distribution.** Lesser Antilles Native. Barbados, Jamaica, St. Croix, St. Thomas. **Bionomics.** In fowl dung in Barbados. This and the following species in this genus may have been at least partly spread through the Lesser Antilles with livestock.

Ataenius crenulatus Schmidt 1910: 359; Stebnicka 2006: 108; Stebnicka 2007: 57. **Distribution.** Barbados; introduced. Mexico, Honduras, Venezuela, Brazil, Bolivia, to Argentina.

Ataenius gracilis (Melsheimer) 1845: 137 (*Oxyomus, Pleurophorus*); Tucker 1952: 342; Chalumeau 1983: 74; Bennett and Alam 1985: 22; Woodruff et al. 1998: 33 [as *A. chilensis* Solier 1851:72, in error from Barbados]; Turnbow and Thomas 2008: 48. **Distribution.** Widespread New World. Bahamas (New Providence), Barbados, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Marie-Galante, Martinique, Puerto Rico, St. Croix, St. Kitts, St. Vincent, Vieques. Argentina, Chile, Colombia, Peru, Galapagos Islands, United States, Canada; introduced to Micronesia. **Bionomics.** Adults attracted to lights; found in cow dung.

Ataenius heinekeni (Wollaston) 1854: 228 (*Oxyomus*); Stebnicka 2004: 216 [synonomy]. =*Ataenius rhyticephalus* (Chevrolat) 1864: 413 (*Auperia*); Bennett and Alam 1985: 22. **Distribution.** Bahamas (Andros), Barbados (probably introduced), Cuba, Hispaniola, Puerto Rico, St. Thomas. USA (SC-FL-TX), Mexico to Brazil, introduced to Ascension and Madeira islands. **Bionomics.** Taken by beating, in leaf and log litter and in debris; seemingly not at dung.

Ataenius imbricatus (Melsheimer) 1845: 136 (*Aphodius*); Stebnicka 2003: 225; Turnbow and Thomas 2008: 48. **Distribution.** Widespread New World. Bahamas (San Salvador), Barbados. Cuba, Guadeloupe, Hispaniola, Puerto Rico, St. Croix. USA (PA-FL), Mexico, Central America, Colombia to Trinidad, Brazil and Argentina. **Bionomics.** In cattle dung; mostly collected at lights

Ataenius liogaster Bates 1887: 94; Blackwelder 1944-1957: 215; Stebnicka and Lago 2005: 60 [synonymy]. =*Ataeniuis edwardsi* Chapin 1940: 26; Blackwelder 1944-1957: 214; Tucker 1952: 342; Chalumeau 1983: 82; Bennett and Alam 1985: 22; Woodruff et al. 1998: 33; Stebnicka and Lago 2005: 60. **Distribution.** Widespread Antilles and Latin America. Antigua, Barbados, Carriacou, Cuba, Dominica (overlooked in Stebnicka and Lago 2005: 61), Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Lucia, St. Vincent. Costa Rica, Ecuador (including Galapagos), El Salvador, Gua-

temala, Honduras, Mexico, Nicaragua, Panama, Trinidad, Venezuela; introduced to Australia, Micronesia, Galapagos. **Bionomics.** Adults attracted to lights; found in cow and fowl dung.

Ataenius luteomargo Chapin 1940:36; Blackwelder 1944-1957: 215; Fleutiaux et al. 1947: 42; Tucker 1952: 342; Chalumeau 1983: 84; Bennett and Alam 1985: 22, Woodruff et al. 1998: 33; Stebnicka 2002: 270. =*Ataenius versicolor* Hinton 1937:183 (Barbados). **Distribution.** Widespread Antilles and Latin America. Antigua, Barbados, La Désirade, Dominica, Grenada, Guadeloupe, Hispaniola, Les Saintes, [not Jamaica], Marie-Galante, Martinique, Montserrat, Puerto Rico, St. Kitts, St. Lucia. Panama, Surinam, Venezuela. **Bionomics.** Adults attracted to lights, found in foul and cow dung; feeds on bat guano in Coles Cave, Barbados (Peck 1981).

Ataenius morator Harold 1869: 103; Stebnicka 2003: 243. **Distribution.** Lesser Antilles and South America. Barbados, Guadeloupe. Trinidad and Venezuela south to Brasil and Argentina. **Bionomics.** In rotting materials, especially dung; frequent in light traps.

Ataenius scabrellus Schmidt 1909: 118; Chalumeau 1983: 75; Stebnicka 2003: 227; Turnbow and Thomas 2008: 48. =*Ataenius miamii* of Chapin 1940: 41, Bennett and Alam 1985: 22; Tucker 1952: 342. **Distribution.** Widespread New World. Bahamas (Andros, Providence, San Salvador), Barbados, Cuba, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Kitts. Venezuela, Guyana, USA (FL Keys). **Bionomics.** In fowl dung.

Ataenius scutellaris Harold 1867: 82; Tucker 1952: 342; Bennett and Alam 1985: 22. =*Ataenius frater* Arrow 1903: 512; Woodruff et al. 1998: 33. **Distribution.** Widespread Antilles and Latin America. Antigua, Bahamas, Barbados, Dominica, Grenada, Guadeloupe Hispaniola, Jamaica, Montserrat, Puerto Rico, St. Croix, St. Kitts, St. Thomas, St. Vincent, Tortola. Mexico to Colombia, Trinidad and Brazil. **Bionomics.** Adults attracted to lights; found in fowl and cow dung.

Ataenius strigicauda Bates 1887: 96; Bennett and Alam 1985: 22; Woodruff et al. 1998: 33. **Distribution.** Widespread Antilles and Latin America. Bahamas, Barbados, Bequia, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Martinique, Puerto Rico, St. Croix, St. Lucia, St. Thomas, St. Vincent. Mexico to Trinidad and Argentina and Chile; introduced to Madeira. **Bionomics.** Adults attracted to lights; found in cow and fowl dung.

Subfamily Melolonthinae
Tribe Melolonthini

Phyllophaga smithi (Arrow) 1912: 458 (*Phytalus*); Tucker 1952: 342; Bennett and Alam 1985: 22. **Distribution.** Barbados (BMAC, SBPC); endemic. Trinidad (mislabeled?); Mauritius (introduced). **Bionomics.** Sugarcane white-grub or brown hardback. I found adults in abundance in many gully forests. Larvae attack roots of sugarcane, *Citrus*, maize, rose and the tubers of yams and sweet potatoes. This species is a very destructive pest on the Indian Ocean island of Mauritius. A native biocontrol parasitoid in Barbados may be the scoliid wasp *Scolia (Dielis) dorsata* Fabricius.

Phyllophaga vandinei Smyth 1917: 68; Bennett and Alam 1985: 22. **Distribution.** Barbados?, Puerto Rico. I have not been able to confirm the presence of this species in Barbados. It is possible that it was introduced to Barbados or was intercepted, but is not established. **Bionomics.** The species was described from Puerto Rico, where it is a serious pest (Walcott 1936: 247). In Barbados is supposedly attacks roots of sugarcane, banana; also breeds in decaying organic matter. Bennett and Alam 1985 also indicate the presence of another species of *Phyllophaga* in Barbados, which breeds on decaying roots, etc.

Subfamily Rutelinae
Tribe Anomalini

Leucothyreus vincentiae Arrow 1900: 179. **Distribution**. Barbados (new record, det. S. B, Peck), St. Vincent. Lesser Antilles endemic. **Notes**. Common at lights in Turners Hall Woods; there is the possibly that this fairly large beetle is a recent introduction to Barbados because it was not previously recorded on Barbados. But the fact that it has not been taken in other sites argues against this.

Tribe Rutelini

Macraspis tristis Laporte 1840: 117; Blackwelder 1944-1957: 242; Chalumeau 1983: 126. **Distribution.** Barbados (det. R. D. Gordon, USNM, probably introduced), Dominica, Guadeloupe. **Bionomics.** Adults attracted to flowers of *Poinciana* (flametree); larvae in decaying trees.

Subfamily Dynastinae
Tribe Cyclocephalini

Cyclocephala amazona (Linnaeus) 1767: 551 (*Scarabaeus*); Blackwelder 1944-1957: 252; Tucker 1952: 342; Endrödi 1966: 147; Bennett and Alam 1985: 22. **Distribution.** Widespread Antilles and Latin America. Barbados, Cuba, Grenada, Jamaica. Mexico to Panama to Argentina (not Chile). The subspecies *C. a. signata* (Fabricius) 1781: 39 (*Melolontha*) is supposedly limited to Barbados, Grenada, Tobago, and Trinidad. **Bionomics.** On pigeon pea.

Parachalepus barbatus (Fabricius) 1787: 10 (*Chalepides*); Blackwelder 1944-1957: 253; Endrödi 1966: 403; Chalulmeau 1983: 216 (who doubts Guadeloupe record). **Distribution.** Barbados (det. R. D. Gordon, probably introduced), Cuba, Guadeloulpe, Hispaniola, Puerto Rico, St. Barthelemy. Guatemala to Argentina. **Bionomics.** Possibly introduced to Lesser Antilles.

Tribe Pentodontini

Tomarus cuniculus (Fabricius) 1801: 20 (*Geotrupes*); Tucker 1952: 342 [as *Ligyrus cuniculus*]; Endrödi 1985: 256; Bennett and Alam 1985: 22 [as *Ligyrus cuniculus*]. **Distribution.** Widespread New World. Bahamas, Barbados (BMAC), Bermuda, Cuba, La Désirade, Dominica, Guadeloupe, Hispaniola, Les Saintes, Jamaica, Marie-Galante, Martinique, Nevis, Puerto Rico, St. Barthelémy, St. Martin, St. Thomas, St. Vincent. Brazil, French Guiana, Trinidad, United States. **Bionomics.** Adults attracted to lights; larvae are a serious pest of roots of sugar cane, tubers of yam and sweet potato; also breeds in decaying vegetable matter and manure.

Phileurus valgus (Olivier) 1789: 43 (*Scarabaeus*); Turnbow and Thomas 2008: 49. =*P. v. antillarum* Prell 1912: 179; Chalumeau 1983: 168; Endrödi 1978: 111, 1985: 726; Ratcliffe 1988: 52. =*Phileurus castaneus* Haldeman 1843: 304; Tucker 1952: 342; Bennett and Alam 1985: 22. **Distribution.** Widespread New World. Bahamas (New Providence), Barbados (SBPC), Cuba, La Désirade, Dominica, Guadeloupe, Martinique, St. Barthelémy, St. Croix, St. Martin. Venezuela. The nominate subspecies is in USA (FL) and Central and South America to Argentina. **Bionomics.** Adults attracted to lights; adults and larvae collected in decaying *Inga* log.

Subfamily Cetoniinae
Tribe Cetoniini

Protaetia fusca (Herbst) 1790: 257 (*Cetonia*); Bennett and Alam 1985: 22 [as *Protaetta* sp.]; Woodruff 2006: 227; Turnbow and Thomas 2008: 49. **Distribution.** Barbados, introduced; Bahamas (Eleuthera, New Providence). USA (FL, three southern counties); introduced to New World, native and widespread in Southeast Asia and Australasia; also Pacific and Indian Ocean islands. **Bionomics.** The Asian mango flower beetle. Adults feed on flowers of pigeon pea in Barbados, and probably pollen of many plants as well, where they may cause plant damage. Adults may also feed on fermenting materials; larvae may feed on plant roots but more likely on rotting plant trash.

Series Elateriformia
Superfamily Buprestoidea

51. Family Buprestidae, The metallic wood-boring beetles
Subfamily Buprestinae
Tribe Chrysobothrini

Chrysobothris antillarum Fisher 1925: 101; Blackwelder 1944-1957: 315; Tucker 1952: 342; Bennett and Alam 1985: 22. **Distribution.** Barbados; endemic?, or a synonym of *C. cordicollis* Laporte and Gory. **Bionomics.** A wood borer

Chrysobothris sexpunctata (Fabricius) 1801: 206 (*Buprestis*); Fisher 1925: 94; Blackwelder 1944-1957: 318; Tucker 1952: 342; Bennett and Alam 1985: 22. **Distribution.** Barbados; (introduced). Nicaragua, Panama, northern South America to Brazil, Bolivia. **Bionomics.** Imported to Barbados in firewood.

Superfamily Elateroidea

69. Family Elateridae, The click beetles

Subfamily Lissominae

Lissomus sp. **Distribution.** Barbados (det. J. R. Dogger,USNM). **Bionomics.** No data.

Subfamily Agrypninae
Tribe Oophorini

Conoderus amplicollis (Gyllenhal) 1817: 141 (*Elater*). =*Heteroderes laurentii* (Guérin-Méneville) 1839: 31 (*Oophorus*); Blackwelder 1944-1957: 289; Tucker 1952: 342; Bennett and Alam 1985: 22. **Distribution.** Probably introduced to Lesser Antilles; Barbados, Cuba, Dominica, Grenada, Guadeloupe, Martinique, Mustique, Puerto Rico, St. Vincent. Probably native to southern South America; Argentina, Brazil, Paraguay, Peru (H. Douglas, pers. comm.). **Bionomics.** Boring imported wallaba wood (*Eperua falcata*), probably from Demerara, 1929.

Tribe Pyrophorini

Ignelater luminosus (Illiger) 1807: 149 (*Elater*); Blackwelder 1944-1957: 285; Tucker 1952: 342; Bennett and Alam 1985: 23; Costa 1980: 162. **Distribution.** Barbados (introduced), Hispaniola, Puerto Rico, St. Croix, St. John, St. Lucia, St. Thomas. Venezuela is an error. **Bionomics.** Introduced in 1932 and 1935 as a predator against sugarcane root-borer (*Diaprepes abbreviatus*) and white-grub (*Phyllophaga smithi*) from Puerto Rico; present in 1951 and an important biocontrol agent, but I made no recent collections. Adults are bioluminescent.

Ignelater phosphoreus (Linnaeus) 1758: 404 (*Elater*); Blackwelder 1944-1957: 285; Bennett and Alam 1985: 23; Costa 1980: 163. **Distribution.** Barbados (introduced; BMAC, as *Pyrophorus lychnus*, det. C. M. von Hayek), Hispaniola, Puerto Rico. French Guiana; Brazil and Argentina are probably errors. **Bionomics.** Collected at light (SBPC); abundant in Turners Hall Woods. Probably predacious on soil inhabiting insects. Adults are bioluminescent.

Tribe Hemirhipini

Chalcolepidius virens (Fabricius) 1787: 172 (*Elater*); Casari 2002: 339. =*Chalcolepidius porcatus* (Linnaeus) 1767: 652 (*Elater*), Blackwelder 1944-1957: 283; Tucker 1952: 342; Bennett and Alam 1985: 22. **Distribution.** Widespread Antilles and South America. Barbados, Grenada. Trinidad, Tobago, Venezuela, Colombia, Peru, Bolivia, Brazil. **Bionomics.** Reported as boring in whitewood tree in Barbados, and from imported wallaba wood (*Eperua falcata*).

76. Family Lampyridae, The firefly beetles

Subfamily Lampyrinae

Aspisoma ignitum (Linnaeus) 1767: 645 (*Lampyris*); Leng and Mutchler 1922: 451; Mutchler 1923: 12; Blackwelder 1944-1957: 356; Fleutiaux et al. 1947: 159; Bennett and Alam 1985: 23. **Distribution.**

Widespread Antilles and Latin America. Antigua, Barbados, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Martinique, Mustique, St. Kitts, St. Vincent, Union. Mexico, Central America to Venezuela, Trinidad, French Guiana. **Bionomics.** Larvae predacious on various terrestrial molluscs. Adult males flying at night and signaling with bioluminescence.

Subfamily Photurinae

Photuris livida (G. A. Olivier) 1790: 24 (*Lampyris*); Leng and Mutchler 1922: 484; Blackwelder 1944: 361. **Distribution.** Barbados (record needs confirmation). Trinidad, French Guiana, Argentina.

Series Bostrichiformia

79. Family Jacobsoniidae, The Jacobsen's beetles

Derolathrus undescribed species. **Distribution.** Widespread Antilles native? Barbados (det. S. B. Peck, SBPC), Guadeloupe. This species is also known from centraland north Florida. **Bionomics.** In moist bat guano (Coles Cave); not yet found in leaf litter in Barbados where it could also be expected.

Superfamily Bostrichoidea

82. Family Dermestidae, The skin and larder beetles

Tribe Atagenini

Attagenus fasciatus (Thunberg) 1795: 105 (*Anthrenus*); Tucker 1952: 343; Bennett and Alam 1985: 23. **Distribution.** Barbados (probably introduced), Cuba. Nearly cosmopolitan. **Bionomics.** The wardrobe beetle. It attacks stored products, but also wild shrubs. In Trinidad it is reported on vanilla beans.

Tribe Anthrenini

Orphinus fulvipes (Guérin-Méneville) 1838: 138 (*Globicornis*); Blackwelder 1944-1957: 396; Bennett and Alam 1985: 23; **Distribution.** Widespread New World. Barbados, Cuba, Guadeloupe, Puerto Rico. USA (FL), Brazil; Old World. **Bionomics.** Recorded on *Citrus* infested with *Aleurocanus woglumi*.

Trogoderma anthrenoides (Sharp) 1902: 694 (*Eucnocerus*); Blackwelder 1944-1957: 396; Bennett and Alam 1985: 23. **Distribution.** Widespread Antilles and Latin America? Barbados. Mexico, Panama. **Bionomics.** Collected on pigeon pea; a cosmopolitan pest.

83. Family Bostrychidae, The horned powder-post beetles

Subfamily Bostrichinae
Tribe Bostrichini

Amphicerus cornutus (Pallas) 1772: 8 (*Ligniperda*); Fisher 1950: 70; Tucker 1952: 343; Bennett and Alam 1985: 23; Turnbow and Thomas 2008: 7. **Distribution.** Widespread New World. Antigua, Bahamas Andros, Eleuthera, Great Inagua), Barbados, Cuba, Guadeloupe, Jamaica, St. Thomas, St. Martin. Puerto Rico. USA (widespread), Mexico to South America; introduced to Hawaii. **Bionomics.** Attacks many genera of dead or dying plants and trees; *Prosopis* may be the natural host plant.

Heterobostrychus aequalis (Waterhouse) 1884: 215 (*Bostrichus*); Fisher 1950: 85; Tucker 1952: 343; Bennett and Alam 1985: 23; Turnbow and Thomas 2008: 8. **Distribution.** An introduced oriental species. Bahamas (Andros), Barbados. USA (FL, established; Woodruff 1967). **Bionomics.** A woodborer, attacking many genera of dead or dying plants or trees. A serious pest of lumber and almost all wood products.

Tribe Xyloperthini

Tetrapriocera longicornis (Olivier) 1795: 15 (*Bostrichus*); Blackwelder 1944-1957: 400; Fleutiaux et al. 1947: 209; Fisher 1950: 102; Tucker 1952: 343; Bennett and Alam 1985: 23; Turnbow and Thomas 2008: 8. **Distribution.** Widespread New World. Bahamas (Andros, Eleuthera, South Bimini), Barbados, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Puerto Rico, St. Thomas. Central America, Mexico, South America, United States (FL). **Bionomics.** Adults attracted to lights; adults and larvae bore into living and dead wood of various trees and shrubs; attacks stems and branches of Barbados ebony.

Tribe Sinoxylini

Sinoxylon conigerum Gerstaecker 1855: 268; Fisher 1950: 60; Tucker 1952: 343; Bennett and Alam 1985: 23. **Distribution.** Barbados, introduced from Old World; widespread in tropical Asia and Africa; introduced to Venezuela and Hawaii. **Bionomics.** A wood-borer; members of this genus are serious pests of fallen trees and bamboo in India.

Subfamily Dinoderinae

Dinoderus sp., Bennett and Alam 1985: 23. **Distribution.** Barbados (introduced); probably *D. minutus* (Fabricius) 1775: 54 (*Apate*) (Fisher 1950: 30), a tropicopolitan species of Oriental origin; known from Cuba, Grenada, Hispaniola, Puerto Rico, St. Vincent. USA (FL, CA) to Argentina. **Bionomics.** The bamboo powderpost beetle. Attacks bamboo furniture and felled trees and wood of many genera; it can also attack sugarcane, rattan, packing cases, and stored products.

Rhizopertha dominica Fabricius 1792: 359. **Distribution.** Barbados (BMAC), Cuba, Puerto Rico, México to Brazil, USA?; cosmopolitan in stored products.

84. Family Anobiidae, The death-watch beetles

Subfamily Anobiinae
Tribe Stegobiini

Stegobium paniceum (Linnaeus) 1761: 145 (*Sitodrepa*); Blackwelder 1944-1957: 402; Tucker 1952: 343; Bennett and Alam 1985: 23. **Distribution.** Barbados (introduced), Guadeloupe, Puerto Rico. USA and Mexico to Brazil, Peru, and Argentina; Old World; cosmopolitan. **Bionomics.** The drug-store beetle. A cosmopolitan pest; attacks stored food-stuffs, onion seed etc.

Subfamily Xyletininae
Tribe Lasiodermini

Lasioderma serricorne (Fabricius) 1792: 251 (*Ptinus*); Blackwelder 1944-1957: 404; Bennett and Alam 1985: 23. **Distribution.** Barbados (introduced; BMAC), Cuba, Grenada, Guadeloupe, Puerto Rico. USA and Mexico to Paraguay; Old World. **Bionomics.** The cigarette beetle. A cosmopolitan pest; attacks a great variety of stored products, particularly tobacco. In Barbados it attacks bone-handled knives, cigarettes, wheat crackers etc.

Subfamily Mesocoelopodinae
Tribe Tricorynini

Tricorynus herbarius (Gorham) 1883: 207 (*Catorama*); Blackwelder 1944-1957: 405; Tucker 1952: 343; White 1981: 778; Bennett and Alam 1985: 23. **Distribution.** Widespread Antilles and Latin America. Barbados, Grenada, Puerto Rico, St. Vincent. Mexico to Argentina. **Bionomics.** The Mexican book beetle. Attacks books, upholstered furniture, provisions, etc.

Tricorynus tabaci (Guérin-Méneville) 1850: 437 (*Catorama*); White 1981: 775. **Distribution.** Antilles and North and/or Central America. Barbados, Cuba. Guatemala, Mexico, USA (FL). **Bionomics**. A stored products pest. In Barbados supposedly attacking books, upholstered furniture, provisions, etc. **Notes.** This is probably the identity of the Barbados record of *Tricorynus zeae* (Waterhouse) 1849: lxviii (*Catorama*); Leng and Mutchler 1914: 435; Blackwelder 1944-1957: 406; Tucker 1952: 343; Bennett and Alam 1985: 23. *Trichorynus zeae* is likely to be a senior synonym of *T. tabaci* but specimens are not available to confirm this (White 1981: 783).

Series Cucujiformia
Superfamily Lymexyloidea

85. Family Lymexylidae, The ship-timber beetles

Atractocerus brasiliensis Lepeltier and Audinet-Serville 1825: 309; Blackwelder 1944-1957: 173; Tucker 1952: 343; Bennett and Alam 1985: 24. **Distribution.** Widespread Antilles and Latin America. Barbados, Cuba, Dominica, Grenada, Guadeloupe, Jamaica, Puerto Rico, Vincent. Mexico to Brazil and Argentina. **Bionomics.** Adults are attracted to lights and larvae live in dying trunks and logs of various trees; attacking stems and branches of Barbados ebony and mango.

Superfamily Cleroidea

87. Family Trogossitidae, The bark-gnawing beetles

Subfamily Trogossitinae

Tenebroides mauritanicus (Linnaeus) 1758: 417 (*Tenebrio*); Blackwelder 1944-1957: 394; Tucker 1952: 343; Bennett and Alam 1985: 23; Barron 1971: 92. **Distribution.** Barbados (introduced), Guadeloupe, Mona Island, Puerto Rico. USA and Mexico to Argentina; cosmopolitan. **Bionomics.** The 'cadelle;' it attacks peanuts imported from India, grains, flour and other stored products, but is mainly a predator.

89. Family Cleridae, The checkered beetles

Subfamily Korynetinae

Necrobia rufipes De Geer 1875: 165; Blackwelder 1944-1957: 391; Tucker 1952: 343; Bennett and Alam 1985: 24. **Distribution.** Barbados (introduced; BMAC), Cuba, Puerto Rico. Mexico to Argentina and Chile; cosmopolitan. **Bionomics.** The redlegged ham beetle. Probably a predator on larvae of other insects; usually found on dry skin and dried or spoiled cheese and meats; collected in Barbados on empty copra bags; perhaps imported with copra.

Superfamily Cucujoidea

97. Family Nitidulidae, The sap-feeding beetles

Subfamily Cillaeinae

Conotelus conicus (Fabricius) 1801: 603 (*Stenus*); Blackwelder 1944-1957: 411; Bennett and Alam 1985: 24. **Distribution.** Barbados, Bequia, Guadeloupe, Jamaica, Montserrat, Mustique, Puerto Rico, St. Vincent. Mexico.

Subfamily Carpophilinae

Carpophilus freemani Dobson 1956: 41;. **Distribution.** Barbados (det. W. A. Connell, introduced). Brazil, Morocco, probably cosmopolitan. **Bionomics**. A pest of stored corn and Brazil nuts and probably other products.

Carpophilus mutilatus Erichson 1843 258; Blackwelder 1944-1957: 411 [as *C. dimidiatus mutilatus*]; Tucker 1952: 343; Bennett and Alam 1985: 24. **Distribution.** Bahamas, Barbados (introduced), Cuba, Grenada, Guadeloupe, Montserrat, Puerto Rico, Vieques. Cosmopolitan. **Bionomics.** In Barbados reared from rotten fruits of golden apple, *Citrus*, other fruits, vegetables and also from corn cobs.

Epuraea luteolus Erichson 1843: 272. Blackwelder 1944-1957: 412 [*Haptoncus*]; Tucker 1952: 343; Bennett and Alam 1985: 24; Turnbow and Thomas 2008: 45. **Distribution.** Bahamas (Great Abaco), Barbados (introduced; BMAC, det. R. Madge), Cuba, Grenada, Guadeloupe, Mona Island, Puerto Rico, St. Vincent. Widespread from USA to Mexico and South America; Old World; cosmopolitan. **Bionomics.** The yellowbrown sap beetle. Found in rotten mangoes and tomatoes; also attends *Saccharicoccus sacchari* on sugarcane.

Subfamily Cybocephalinae

Cybocephalus nipponicus Endrödy-Younga 1971: 244; Smith and Cave 2007: 170. **Distribution.** Barbados, Grand Cayman, Nevis, St. Kitts. Eastern North America, Asia, southern Europe, Micronesia, South Africa. **Notes.** Reported feeding on at least 14 species of armored scales world wide and on *Aspidiotus destructor* Signoret and *A. yasumatsui* Signoret in the West Indies. It was introduced to Barbados from Florida and helps control scales on cycads.

98. Family Smicripidae, The palmetto beetles

Smicrips exilis Murray 1864: 238,; Blackwelder 1944-1957: 424. =*Tsiphone nitiduloides* Reitter 1876: 301. **Distribution.** Widespread Antilles native. Barbados (det. J. M. Kingsolver), Grenada, Guadeloupe, Hispaniola, St. Vincent. **Bionomics.** Adults and larvae occur in litter, under bark, and in decaying flowers; taken in Barbados in flight intercept traps and blacklight traps in Turners Hall Woods (SBPC).

102. Family Silvanidae, The silvanid flat bark beetles

Subfamily Silvaninae

Cathartus quadricolis (Guérin-Méneville) 1829:198 (*Silvanus*); Blackwelder 1944-1957: 421; Bennett and Alam 1985: 24; Thomas 1993: 35; Turnbow and Thomas 2008: 51. **Distribution.** Widespread New World. Bahamas (Andros), Barbados (BMAC, det. R. Madge), Cuba, Grenada, Hispaniola, Jamaica, Puerto Rico, St. Vincent. Cosmopolitan; Mexico, Guatemala, Nicaragua, Panama, USA. **Bionomics.** The square-necked grain beetle. In Barbados it attacks pigeon pea seeds in dry pods, and is a generally distributed pest of corn, in the field and in storage.

Monanus concinulus (Walker) 1858: 207 (*Monotoma*); Blackwelder 1944-1957: 421; Thomas 1993: 31; Turnbow and Thomas 2008: 51. **Distribution.** Bahamas (Andros, New Providence), Barbados (introduced, det. J. M. Kingsolver), Grenada, Guadeloupe, Hispaniola, Jamaica, Mustique, Puerto Rico, St. Croix, St. John, St. Vincent. USA (FL) and Central America; tropicopolitan, native to Asia. **Bionomics.** Probably feeding on molds, often with spoiled fruit.

Oryzaephilus surinamensis (Linnaeus) 1758: 357 (*Silvanus*); Blackwelder 1944-1957: 421; Tucker 1952: 344; Bennett and Alam 1985: 24; Thomas 1993: 20. **Distribution.** Barbados (introduced, BMAC), Cuba, Guadeloupe, Puerto Rico; cosmopolitan and probably native to the Old World, Guatemala, Mexico, Suriname, Argentina, **Bionomics.** The saw-toothed grain beetle; recorded in Barbados in sugar, and also found feeding in wheat crackers; a common and serious pest of stored products, especially on cereals and cereal products, dried fruit, copra, nuts, and carob.

Silvanopropus scuticollis (Walker) 1859: 53 (*Silvanus*); Blackwelder 1944-1957: 421; Thomas 1993: 30; Halstead 1993: 183 [as *Silvanoprus scuticollis*]. **Distribution.** Widespread New World. Barbados, Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Croix, St. Vincent. USA (OK-WV-FL); Costa Rica, Panama, Trinidad, French Guiana, Brazil; cosmopolitan. **Bionomics.** Frequent at lights and in piles of plant debris; on occasion in agricultural products.

107. Family Phalacridae, The shining flower beetles

Subfamily Phalacrinae

Phalacrus sp. one, Bennett and Alam 1985: 24. **Distribution.** Barbados. **Bionomics.** No data.
Phalacrus sp. two, Bennett and Alam 1985: 24. **Distribution.** Barbados. **Bionomics.** No data.
Stilbus sp., Bennett and Alam 1985: 24. **Distribution.** Barbados. **Bionomics.** Attacking pigeon pea seeds in dry pods.

110. Family Cryptophagidae, The silken fungus beetles

Subfamily Atomariinae
Tribe Atomariini

Curelius japonicus (Reitter) 1877: 181 (*Ephistemus*) I was not able to find any of these; Bennett and Alam 1985: 24. **Distribution.** Barbados (introduced; BMAC), widely distributed including southern USA. **Bionomics.** Collected at light; probably a fungus feeder.

112. Family Languriidae, The lizard beetles

Subfamily Toraminae

Toramus infimus Grouvelle 1919: 149; Blackwelder 1944-1957: 428; Bennett and Alam 1985: 24. **Distribution.** Lesser Antilles Native. Barbados, Grenada. **Bionomics.** Associated with *Aleurocanthus woglumi* on *Citrus*.

Subfamily Xenoscelinae
Tribe Loberini

Loberus sp., Bennett and Alam 1985: 24. **Distribution.** Barbados. **Bionomics.** On dry pigeon pea; on *Clitoria tematea*.

121. Family Coccinellidae, The ladybird beetles

Subfamily Sticholotodinae
Tribe Serangiini

Delphastus nebulosus Chapin 1940: 264; Bennett and Alam 1985: 25 [as *Delphastus* sp.]; Gordon 1994: 102. **Distribution.** Widespread Antilles native. Barbados (det. R. D. Gordon), Guadeloupe, Puerto Rico, St. Croix. **Bionomics.** Predator on *O. (Orthezia) insignus* and aleurodids on *Citrus* in Barbados.

Subfamily Scymninae
Tribe Scymnillini

Zilus sp.. **Distribution.** Barbados (det. R. D. Gordon). **Bionomics.** A predator on whiteflies.

Tribe Stethorini

Stethorus caribus Gordon and Chapin 1983: 245; Bennett and Alam 1985: 27. **Distribution.** Widespread Antilles native. Antigua, Barbados, Cuba, Grenada, Hispaniola, Nevis, Puerto Rico. St. Eustatius, St. Lucia. **Bionomics.** Predaceous on sugarcane thrips (*Fulmekiola serrata*) and probably on Acarina.

Tribe Scymnini

Cryptolaemus montrouzieri Mulsant 1853: 268; Blackwelder 1944-1957: 445; Bennett and Alam 1985: 25. **Distribution.** Barbados, Puerto Rico. Central America, USA. **Bionomics.** Introduced from India, against *Saccharicoccus sacchari* but probably not established.

Nephaspis equuleus Gordon 1996: 32. =*Nephaspis oculata* (Blatchley) 1917: 140 (*Scymnus*). =*Nephaspis amnicola* Wingo 1952:44, synonomized in Gordon 1985: 102; Bennett and Alam 1985: 26. **Distribution.** Widespread New World? Barbados (det. R. D. Gordon), St. Lucia. Probably elsewhere in Neotropics. Neotropical records of *N. oculata* (of the Nearctic) are probably this species. **Bionomics.** Predacious on whitefly *Aleurodes floccosus* on guava and on *Aleurocanthus woglumi*.

Nephus sp. nr. *bilucemarius* (Mulsant) 1850: 997 (*Scymnus*); Blackwelder 1944-1957: 444; Bennett and Alam 1985: 26. **Distribution.** Barbados. *Nephus bilucemarius* is recorded from Mexico, and Pearl Islands, Panama. **Bionomics.** Predaceous on *Saccharicoccus sacchari, Orthezia insignis, O. praelongaga, Planococcus citri*, and other coccids. What may be this or other species are reported by Bennett and Alam (1985: 26) as predacious on *Planococcus citri, Phenacoccus gossypil, Ferrisia virgata, Aleurocanthus woglumi, Saccharicoccus sacchari, Aspidiotus destructor, Aleurodicus coccis, A. dispersus, Peregrinus maidis* and *Saccharosydne saccharivora*.

Nephus sp., Bennett and Alam 1985: 26. **Distribution.** Barbados. **Bionomics.** Introduced from India, against *Saccharicoccus sacchiari*. Probably established.

Scymnus (*Pullus*) sp. nr. *apicalis* Mulsant 1850: 987; Blackwelder 1944-1957: 444; Bennett and Alam 1985: 26. **Distribution.** Barbados. *Scymnus apicalis* is recorded from Mexico to Colombia, to Brazil. **Bionomics.** Predaceous on *Tetranychus* spp. (including *T. tumidus*), *Aphis* spp., *Saccharosydne saccharivora* and some coccids. What may be this or other species are reported by Bennett and Alam (1985: 26) as predacious on *Aphis gossypii, Tetranychus tumidus, Tetranychus spp., Myzus persicae, Saccharosydne saccharivora, Saccharicoccus sacchari, Peregninus maidis*, and somne other aphids and coccids.

Tribe Diomini

Diomus ochroderus (Mulsant) 1850: 951 (*Scymnus*); Blackwelder 1944-1957: 445; Bennett and Alam 1985: 25. **Distribution.** Widespread Antilles native. Barbados, Cuba, Grenada, Guadeloupe, Mustique, Puerto Rico, St. Barts, St. Vincent. **Bionomics.** Predaceous on *Orthezia insignis, Sipha flava, Toxoptera aurantii, Aphis* spp., *Aleurothrixus floccosus, Aleurodicus cocois* and *A. dispersus*. **Notes.** What may be this species is reported as *Diomus* sp., Bennett and Alam 1985: 25 in Barbados as predacious on *Icerya purchasi*; and *Diomus* sp. nr. *ochroderus* (Mulsant) by Bennett and Alam 1985: 25; Tucker 1952: 344 as predacious on *Toxoptera aurantii*.

Diomus roseicollis (Mulsant) 1853: 270 (*Scymnus*); Blackwelder 1944-1957: 445 [as *Scymnus*]; Gordon 1999: 175; Turnbow and Thomas 2008: 28. **Distribution.** Widespread New World. Antigua, Bahamas (Andros, Nassau), Barbados (SBPC), Bequia, Cuba, Curaçao, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Martinique, Montserrat, Mustique, Puerto Rico, St. John, St. Lucia, St. Martin, St. Thomas, St. Vincent, Vieques. Central America, South America, USA (southern FL). **Bionomics.** Predaceous on *Aleurocanthus woglumi, Coccus viridis, Geococcus coffeae, Lepidosaphes beckii, Aspidiotus destructor, Aleurodicus cocois, A. dispersus, Planococcus* sp., *P. citri*, *Ferrisia virgata* and *Phenacoccus gossypii*.

Diomus thoracicus (Fabricius) 1801: 378 (*Coccinella*); Blackwelder 1944-1957: 445; Bennett and Alam 1985: 26. **Distribution.** Widespread Antilles and Latin America. Barbados, Grenada, Guadeloupe, Mustique, Puerto Rico, St. Vincent, Union. Mexico to Peru. **Bionomics.** Predaceous on *Sipha flava,*

Aleurocanthus woglumi, Coccus viridis, Geococcus coffeae, Lepidosaphes beckii, Pulvinaria urbicola and *Aphis* spp.

Tribe Hyperaspidini

Hyperaspis festiva Mulsant 1850: 659; Blackwelder 1944-1957: 447; Bennett and Alam 1985: 26. **Distribution.** Widespread New World. **Distribution**. Barbados (aberration *apicalis* Weise 1885: 167) (SBPC), Grenada, Hispaniola, Puerto Rico. USA to Mexico, Panama, Colombia, Brazil and Argentina. **Bionomics.** Predaceous on *Rhopalosiphum maidis*

Hyperaspis sp., Bennett and Alam 1985: 26. **Distribution.** Barbados. **Bionomics.** Introduced from India against *Saccharicoccus sacchari*; probably not established.

Hyperaspis trilineata Mulsant 1850: 667; Blackwelder 1944-1957: 448; Tucker 1952: 344; Bennett and Alam 1985: 26. **Distribution.** Widespread Antilles and South America. Barbados, Puerto Rico, French Guiana. **Bionomics.** Predaceous on *Saccharicoccus sacchari*.

Tribe Cryptognathini

Cryptognatha nodiceps Marshall 1912: 321; Blackwelder 1944-1957: 449; Tucker 1952: 344; Bennett and Alam 1985: 25. **Distribution.** Barbados (introduced from Trinidad). Trinidad, British Guiana, introduced to Fiji and USA. **Bionomics.** Introduced as predator against *Aspidiotus destructor* but not established.

Tribe Pentiliini

Pentilia insidiosa Mulsant 1850: 503; Blackwelder 1944-1957: 450; Tucker 1952: 344; Bennett and Alam 1985: 26. **Distribution.** Barbados (introduced). Colombia, Venezuela, French Guiana. **Bionomics.** Introduced from Trinidad against *Aspidiotus destructor*; established.

Subfamily Chilocorinae
Tribe Chilocorini

Chilocorus cacti (Linnaeus) 1767: 584 (*Coccinella*); Blackwelder 1944-1957: 451; Bennett and Alam 1985: 25; Gordon 1985: 646; Turnbow and Thomas 2008: 27. **Distribution.** Bahamas (Andros, Great Inagua), Barbados (introduced; BMAC, SBPC), Cuba, St. Vincent (SBPC). USA to Mexico to South America. **Bionomics.** Introduced to Barbados and an important biocontrol agent; predacious on *Planococcus citri, Phenacoccus gossypii, Icerya purchasi, Aspidiotus destructor, Aleurodicus cocois, A. dispersus, Coccus viridis, Geococcus coffeae, Lepidosaphes beckii*, and *Asrerolecanium bambusae*

Curinus coeruleus Mulsant 1850: 472. **Distribution.** Barbados (det. R. D. Gordon, probably introduced). USA (FL), Mexico, to Brazil.

Exochomus lituratus Gorham 1894: 203; Bennett and Alam 1985: 26. **Distribution.** Barbados (introduced). **Bionomics.** Introduced, probably from India or Pakistan, as a predator on *Pinnaspis strachani, Planococcus citri, Coccus viridis, Aspidiotus destructor and Planococcus* sp. (an Indian species); seemingly not established.

Exochomus nitidula (Fabricius) 1792: 286 (*Cladis*) ; Blackwelder 1944-1957: 451. Bennett and Simmonds 1964: 92. **Distribution.** Widespread Antilles native. Barbados (SBPC, det. R. D. Gordon), Cuba, Dominica, Guadeloupe, Martinique, Puerto Rico, St. Lucia. **Bionomics.** Predator on *Asterolecanium* sp

Subfamily Coccidulinae
Tribe Noviini

Rodolia cardinalis (Mulsant) 1850: 901 (*Vedalia*); Blackwelder 1944-1957: 443; Bennett and Alam 1985: 26; Tucker 1952: 344; Turnbow and Thomas 2008: 28. **Distribution.** Bahamas (Andros), Barbados

(BMAC), Puerto Rico. USA, native to Old World (Australia). **Bionomics.** Introduced to Barbados in 1943 from California against *Icerya purchasi* (cottony cushion scale); an important biocontrol agent.

Tribe Azyini

Pseudoazya trinitatis (Marshall) 1912: 320 (*Azya*); Blackwelder 1944-1957: 451; Tucker 1952: 344; Bennett and Simmonds 1964: 90 (*Azya*); Gordon 1980: 194; Bennett and Alam 1985: 26. **Distribution.** Barbados (det. R. D. Gordon), Bequia, Dominica, Grand Cayman, Grenada, Guadeloupe, Nevis, Puerto Rico, St. Croix, St. Eustatius, St. Kitts, St. Lucia, St. Vincent. Colombia, Tobago, Trinidad, Venezuela, Guyana, Surinam, Fiji. **Notes.** Introduced to Barbados from Trinidad against *Aspidiotus destructor*; established.

Subfamily Coccinellinae
Tribe Coccinellini

Coleomegilla maculata (De Geer) 1875: 392 (*Coccinella*); Blackwelder 1944-1957: 453; Tucker 1952: 344; Bennett and Alam 1985: 25; Turnbow and Thomas 2008: 27. **Distribution.** Widespread New World. Bahamas (Andros, Eleuthera), Barbados, Guadeloupe, Martinique, St. Vincent. USA, Mexico to Colombia, Venezuela, and Trinidad to Argentina. **Bionomics.** Predaceous on aphids (*Aphis* spp.), eggs of *Spodoptera* spp., and on other soft bodied insects. **Notes.** The name probably represents a complex of species (N. Vandenberg, pers. com, May 2007).

Cycloneda sanguinea (Linnaeus) 1763:10 (*Coccinella*); Leng and Mutchler 1917: 200; Blackwelder 1944-1957: 452; Tucker 1952: 344; Bennett and Alam 1985: 25; Vandenberg 2002: 228. **Distribution.** Widespread New World. Antigua, Bahamas, Barbados (SBPC, BMAC), Bequia, Cuba, Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Vincent, Union. USA through Central America to Argentina and Chile. **Bionomics.** A general predator; predacious on *Sipha flava, Aphis* spp., *Toxoptera auran di, Myzus persicae, Saceharosydne saceharivora, Orthezia* spp., *Diatraea saccharalis, Spodoptera spp., Anornis spp., Pseudoplusia includens, Tnchoplusia ni, Plutella xylostella, Heliothis* spp.

Tribe Halyziini

Psyllobora parvinotata Casey 1899: 101; Gordon 1985: 861. **Distribution.** Antilles and North and/or Central America. Barbados (SBPC, det. N. Vandenberg; new island record). USA (FL-LA). **Notes.** The Caribbean distribution of this species has not been summarized.

122. Family Corylophidae, The minute fungus beetles

Subfamily Corylophinae
Tribe Sericoderini

Sericoderus sp.; Bennett and Alam 1985: 25. **Distribution.** Barbados. **Bionomics.** Collected on bean leaf (*P. vulgaris*); probably predacious.

Sericoderus sp. prob. *latus* Matthews 1888: 117; Blackwelder 1944-1957: 431; Bennett and Alam 1985: 25. **Distribution.** Barbados. *Sericoderus latus* is reported from Guatemala, Old World. **Bionomics.** Adults associated with colonies of sugarcane thrips (*F. serrata*)

Subfamily Orthoperinae

Orthoperus minutissimus Matthews 1899: 184; Blackwelder 1944-1957: 431; Bennett and Alam 1985: 25. **Distribution.** Lesser Antilles Native. Barbados, Guadeloupe. **Bionomics.** On flowers of white broomweed.

Orthoperus perpusillus Matthews 1888: 123; Blackwelder 1944-1957: 431; Bennett and Alam 1985: 25. **Distribution.** Widespread New World. Barbados, Grenada, St. Vincent. Mexico, Nicaragua. **Bionomics.** On flowers of red sage

Orthoperus sp.; Blackwelder 1944-1957: 431; Bennett and Alam 1985: 24. **Distribution.** Barbados. **Bionomics.** Adults found amongst sugarcane thrips (*F. serrata*).

Orthoperus sp. ?*crotchii* Matthews [this name is not in Blackwelder 1944-1957: 431, and thus may not be a New World species], Bennett and Alam 1985: 24. **Distribution.** Barbados. **Bionomics.** Adults collected on *Citrus*. Members of this family mostly occur in rotting wood or in decaying vegetable matter; many feed on moulds, coccids etc.

Superfamily Tenebrionoidea

24. Family Mycetophagidae, The hairy fungus beetles

Subfamily Mycetophaginae

Typhaea stercorea (Linnaeus) 1758: 357 (*Dermestes*)); Blackwelder 1944-1957: 469; Tucker 1952: 344; Bennett and Alam 1985: 27; Turnbow and Thomas 2008: 44. **Distribution.** Widespread New World. Bahamas (Andros), Barbados, Grenada, Guadeloupe, Puerto Rico, St. Vincent. USA to Mexico, Guatemala; Old World, cosmopolitan. **Bionomics.** The species occurs on moldy food products and in stored products and is associated with fungi.

131. Family Rhipiphoridae, The wedge-shaped beetles

Macrosiagon octomaculatum (Gestaecker) 1855: 22 (*Rhipiphorus*); Blackwelder 1944-1957: 480; Tucker 1952: 344; Bennett and Alam 1985: 27. **Distribution.** Widespread New World. Barbados, Guadeloupe, St. Vincent. USA to Guatemala to French Guiana, Brazil and Argentina. **Bionomics.** A parasite of *Campsomeris dorsata*; adult also feeds on *Icerya purchasi* with which it apparently tears open the sac, and feeds upon the eggs.

139. Family Tenebrionidae, The darkling beetles

Subfamily Pimeliinae
Tribe Epitragini

Ortheolus antillarum (Champion) 1896: 4 (*Schoenicus*); Marcuzzi 1984: 72. =*Schoenicus antillarum* Champion, Blackwelder 1944-1957: 511; Tucker 1952: 345; Bennett and Alam 1985: 27. **Distribution.** Lesser Antilles and South America. Barbados, Guadeloupe, Grenada, St. Vincent, Union. Trinidad. **Bionomics.** Under tree bark; also collected from a cellar.

Subfamily Diaperinae
Tribe Phaleriini

Phaleria testacea Say 1824: 280; Watrous and Triplehorn 1982: 18; Turnbow and Thomas 2008: 57. =*Phaleria chevrolati* Fleutiaux and Sallé 1889: 442; Blackwelder 1944-1957: 526; Tucker 1952: 345; Bennett and Alam 1985: 27. **Distribution.** Widespread New World. Bahamas (Andros, Conception, Eleuthera, Brand Bahama, etc.), Barbados, Guadeloupe, Grenada, Guadeloupe, Hispaniola, Mustique, Puerto Rico, St. Bathelemy. Coastal eastern USA to Mexico, coastal Caribbean, to coastal eastern South America down to Rio de Janeiro, Brazil. **Bionomics.** Scavenger on sandy beaches.

Phaleria thinophila Watrous and Triplehorn 1982: 15. **Distribution.** Widespread Antillean? Barbados (record needs confirmation, it is suspect because there are no other Lesser Antilles records), Hispaniola, Jamaica, Puerto Rico, St. Croix, St. John, St. Thomas. The Costa Rica and Venezuela records also need verification.

Subfamily Opatrinae
Tribe Opatrini

Blapstinus simulans Marcuzzi 1962: 36. **Distribution.** Lesser Antilles and South America. Barbados. Venezuela (Isla de Caribe, Estado Sucre). **Notes.** The Barbados populations has been described as an endemic subspecies.

Opatrinus (*Opatrinus*) *clathratus* (Fabricius) 1792: 90 (*Opatrum*), Dariusz 1995: 16. =*Opatrinus gemellatus* Olivier 1795: 9; Blackwelder 1944-1957: 524; Marcuzzi 1962: 31; Tucker 1952: 345; Bennett and Alam 1985: 27. =*Diastolinus clathratus* (Fabricius); Blackwelder 1944-1957: 524; Marcuzzi 1962: 27, 1984: 77; Bennett and Alam 1985: 27. **Distribution.** Widespread Antilles and South America. Antigua, Barbados, Bequia, Dominica, Grenada, Guadeloupe, Jamaica, Marie Galante, Mustique, Nevis, St. Croix, St. Kitts, St. Lucia, St. Vincent, Union. Brazil, Colombia, French Guiana, Guyana, Mexico (introduced), Surinam, Tobago, Trinidad, Venezuela (mainland, Margarita, Los Frailes and Los Testigos). **Bionomics.** Attacks young cotton plants in Barbados.

Subfamily Tenebrioninae
Tribe Triboliini

Tribolium castaneum (Herbst) 1797: 282 (*Colydium*); Blackwelder 1944-1957: 531; Tucker 1952: 345; Bennett and Alam 1985: 27. **Distribution.** Barbados (introduced), Cuba, Dominica, Hispaniola, Jamaica, Puerto Rico. USA, Mexico to Panama, Colombia to Venezuela, and Margarita and Curaçao to Argentina; native to Old World; cosmoplitan. **Bionomics.** The red flour beetle; a serious pest; attacks maize, wheat, rice and other grains in storage; also taken at lights in and near buildings.

Tribe Alphitobiini

Alphitobius diaperinus (Panzer) 1797: 16 (*Tenebrio*); Blackwelder 1944-1957: 532; Tucker 1952: 345; Marcuzzi 1984: 95; Bennett and Alam 1985: 27; Turnbow and Thomas 2008: 53. **Distribution.** Widespread New World. Bahamas (Grand Bahama), Barbados, Cuba, Guadeloupe, Jamaica, Puerto Rico. USA, Mexico, Trinidad, Old World. **Bionomics.** The lesser mealworm. In decaying cottonseed and in fowl dung

Alphitobius laevigatus (Fabricius) 1781: 90 (*Tenebrio*); Tucker 1952: 345; Marcuzzi 1962: 38, 1984: 95; Bennett and Alam 1985: 27. **Distribution.** Widespread New World. Antigua, Barbados, Cuba, Dominica, Guadeloupe, Puerto Rico, Saba, St. Martin, St. Vincent. Aruba, Curaçao, Mexico to Brazil; Old World; cosmopolitan; distributed by commerce. **Bionomics.** The black fungus beetle; attacks cottonseed and wheat in stores; also in bat guano.

Tribe Tenebrionini

Zophobas atratus Fabricius 1775: 256; Leng and Mutchler 1914: 463; Blackwelder 1944-1957: 534; Marcuzzi 1962: 39, 1977: 41, 1984: 98; Bennett and Alam 1985: 27. =*Zophobus morio* Fabricius 1776: 241, Blackwelder 1944-1957: 534; Tucker 1952: 345. =*Zophobus rugipes* Kirsch 1886: 197, Blackwelder 1944-1957: 534; Bennett and Alam 1985: 27; Marcuzzi 1984: 98. **Distribution.** Widespread New World. Aruba, Barbados, Bonaire, Cuba, Curaçao, Dominica, Grenada, Guadeloupe, Hermanos, Jamaica, Martinique, Puerto Rico, Saba, St. Barts; St. Thomas, St. Croix, St. Martin, St. Vincent, Testigos. Mexico to Panama, Ecuador, Margarita; Trinidad to Paraguay, USA (CA-FL). **Notes.** Many references have cited *Z. atratus, Z. morio*, and *Z. rugipes* as separate species but Tschinkel (1984) found difficulty in separating them and that all forms interbred in culture, so they are treated as one species here. **Bionomics.** Frequently found in houses.

Subfamily Alleculinae

Lobopoda granulata Campbell 1966: 85, 1971: 43; Bennett and Alam 1985: 21. **Distribution.** Lesser Antilles and South America. Barbados. Panama and Colombia to Venezuela, French Guiana, and

Brazil. **Bionomics.** Larvae probably in decomposing wood and leaf litter and adults feeding on algae or fungi on tree trunks at night.

142. Family Oedemeridae, The pollen-feeding beetles

Subfamily Oedemerinae
Tribe Asclerini

Hypasclera sp. nr. *nesiotes* (Arnett) 1951: 349 (*Alloxacis*); Arnett 1984: 3; Bennett and Alam 1985: 27; Turnbow and Thomas 2008: 46. **Distribution.** Barbados. *Hypasclera nesiotes* is known only from West Indian islands; Bahamas (widespread), Cuba, Hispaniola, Puerto Rico. USA (FL, Keys only), and its range may actually extend down to Barbados.

Oxycopis vittata (Fabricius) 1775: 125 (*Lagria*); Arnett 1984: 2; Turnbow and Thomas 2008: 46. =*Sessinia vittata* (Fabricius), Leng and Mutchler 1914: 466; Blackwelder 1944-1957: 490. =*Copdita lateralis* Waterhouse 1878: 307, Bennett and Alam 1985: 27. **Distribution.** Widespread New World. Antigua, Bahamas (South Bimini), Barbados (BMAC), Cuba, Dominica, Grenada, Hispaniola, Jamaica, Guadeloupe, Martinique, Montserrat, Mustique, Puerto Rico, St. Lucia, Vieques. USA (FL, Keys and Dade Co.). **Bionomics.** In dry cotton bolls, and at light.

144. Family Meloidae, The blister beetles

Subfamily Nemognathinae
Tribe Horiini

Cissites maculata (Swederus) 1787: 199 (*Cucujus*); Blackwelder 1944-1957: 482; Tucker 1952: 344; Selander and Bouseman 1960: 212; Bennett and Alam 1985: 27. **Distribution.** Widespread Antilles and South America. Barbados, Cuba, Dominica, Guadeloupe, Hispaniola, Puerto Rico, St. Vincent. Colombia, Ecuador, French Guiana, Mexico to Panama to Peru, Trinidad, Venezuela, to Brazil, Argentina and Chile. **Bionomics.** The larvae are parasitic upon the immatures of carpenter bees (*Xylocopa fimbriata*, Xylocopidae) in Barbados.

Tribe Nemognathini

Pseudozonitis marginata (Fabricius) 1781: 159 (*Lagria*); Selander and Bouseman 1960: 214; Turnbow and Thomas 2008: 43. =*Epicauta annulicornis* Chevrolat 1877: ix; Blackwelder 1944-1957: 482. =*Epicauta* sp., Bennett and Alam 1985: 27 of Barbados. **Distribution.** Widespread Antilles native. Bahamas (Andros), Barbados, Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Jamaica, Martinique, Puerto Rico, St. Croix, St. Lucia. **Bionomics.** Adults are plant feeders and the larvae are parasitoids on insects.

151. Family Anthicidae, The antlike flower beetles

Subfamily Anthicinae

Anthicus sp. nr. *spinicolis* Laferté Sénectère 1848: 138; Blackwelder 1944-1957: 434; Bennett and Alam 1985: 27. **Distribution.** Barbados. *Anthicus spinicollis* is reported from Mexico, Belize, Guatemala, Colombia, Brazil, Argentina. **Bionomics.** Collected on cabbage; possibly an opportunistic predator.

Superfamily Chrysomeloidea

154. Family Cerambycidae, The long-horned beetles

Monné and Giesbert (1995) and Monné and Hovore (2005) are catalogues or checklists of the species of the Western Hemisphere; Chalumeau and Touroult (2005) may be of help to identify the Barbados fauna.

Subfamily Prioninae
Tribe Macrotomini

Nothopleurus maxillosus (Drury) 1773: 86 and plate 38, fig. 3 (*Cerambyx*); Fleutiaux and Sallé 1889: 460 (as *Stenodontes exsertus* Olivier 1795: 17); Blackwelder 1944-1957: 552; Chalumeau and Touroult 2005a: 45 (as *Stenodontes maxillosus*). **Distribution.** Widespread Antilles native. Antigua, Barbados (needs verification), Barbuda Cuba, Dominica, Guadeloupe, Martinique, Montserrat, Puerto Rico (seemingly absent in Virgin Islands), St. Barthélémy, St. Christopher, St. Kitts, St. Martin. **Notes.** Larvae attack healthy and unhealthy wood of orange, mango, *Bursera*, *Avicennia, Mangifera, Coccoloba, Haematoxylon*, and others.

Subfamily Cerambycinae
Tribe Methiini

Methia necydalea (Fabricius) 1798: 148 (*Saperda*); Philips and Ivie 1998: 72; Chalumeau and Touroult 2005a: 71; Dalens and Touroult 2007: 291; Turnbow and Thomas 2008: 20. **Distribution.** Widespread New World. Antigua, Bahamas (Andros, Great Exuma, South Bimini, Mayaguana, etc.), Barbados, Cayman Islands, Cuba, Désirade, Dominica, Grenada, Guadeloupe, Guana, Hispaniola, Les Saintes, Marie Galante, Martinique, Mona Island, Montserrat, Nevis, Puerto Rico, St. Barthélémy, St. Croix, St. John, St. Kitts, St. Lucia, St. Martin, Nevis, St. Thomas, St. Vincent, Union. USA (TX-FL-VA) to Mexico, Central America, to Argentina. **Notes.** Taken at lights. Host trees: *Sloanea, Inga, Laguncularia, Conocarpus, Rhizophora, Avicennia*.

Tribe Achrysonini

Achryson surinamum (Linnaeus) 1767: 632 (*Cerambyx*); Tucker 1952: 345; Bennett and Alam 1985: 28 (det. R. E. White); Chalumeau and Touroult 2005: 74; Dalens and Touroult 2007: 291. **Distribution.** Widespread New World. Antigua, Barbados (BMAC), Cuba, Dominica, Guadeloupe, Martinique, Montserrat, Puerto Rico, St. Martin. SW USA to Argentina. **Bionomics.** Bores stems and branches of Barbados ebony, *Acacia, Leucaena, Tamarindus*, etc.

Tribe Eburiini

Eburia decemmaculata (Fabricius) 1775: 181 (*Stenocorus*); Blackwelder 1944-1957: 563; Bennett and Alam 1985: 28; Tucker 1952: 345; Chalumeau and Touroult 2005: 78. **Distribution.** Widespread Antilles native. Anegada, Antigua, Barbados (BMAC), Dominica, Guadeloupe, Les Saintes, Marie Galante, Martinique?, St. Barts, St. Croix, St. Eustache, St. Martin. **Bionomics.** Collected at light. Hosts: in *Delonix, Hippomane, Leucaena, Acacia*; in Barbados bores stems of spanish ash.

Eburia octomaculata Chevrolat 1862: 265; Tucker 1952: 345; Bennett and Alam 1985: 28; Chalumeau and Touroult 2005: 77. **Distribution.** Widespread Antilles native. Barbados, Cuba?, Dominica, Guadeloupe, Martinique, Montserrat, St. Kitts. **Bionomics.** Hosts: *Tamarindus, Eugenia, Citrus, Inga*; bores stems of spanish ash in Barbados.

Tribe Elaphidiini

Curtomerus flavus (Fabricius) 1875: 191 (*Callidium*); Blackwelder 1944-1957: 571, Bennett and Alam 1985: 28; Tucker 1952: 345; Chalumeau and Touroult 2005: 88; Turnbow and Thomas 2008: 17. **Distribution.** Widespread New World. Anguilla, Bahamas (Andros, Cat, Crooked, Eletuthera, etc.), Barbados, Barbuda, Guadeloupe, Les Saintes, Marie Galante, Martinique, St. Vincent, Virgin Islands. SE USA (FL) to Guyana; introduced to Hawaii, Marquesas, Tahiti, and Philippines in lumber. **Bionomics.** Collected at light. Hosts: polyphagous in *Conocarpus, Lonchocarpus, Coccoloba, Eugenia, Leucaena*, etc.

Tribe Piezocerini

Haruspex inscriptus Gahan 1895: 107; Chalumeau and Touroult 2005: 106. **Distribution.** Widespread Antilles and Latin America. Barbados, Grenada. Mexico, Central America, to Trinidad and northern South America. **Bionomics.** Unknown.

Tribe Ibidionini

Neocompsa cylindricollis (Fabricius) 1798: 146 (*Heterachtes*); Chalumeau and Touroult 2005: 109 [as *Stenocorus cylindricollis*]. = *Heterachtes quadrimaculatus* Haldeman 1847: 43 [not Fabricius 1792: 328], Tucker 1952: 345; Bennett and Alam 1985: 28 (det. R. E. White); Dalens and Touroult 2007: 291. **Distribution.** Widespread Antilles and South America. Barbados, Barbuda, Cuba, Desirade, Dominica. Jamaica, Guadeloupe, Les Saintes, Marie Galante, Martinique, Montserrat, Puerto Rico, St. Martin, Saba, St. Lucia, St. Vincent. Trinidad. **Bionomics.** Hosts: polyphagous; *Inga, Acacia, Mangifera, Sloanea, Tamarindus*, etc. in Barbados collected on *Aeschynomene americana*.

Tribe Plectromerini

Plectromerus louisantoini Dalens and Touroult 2007: 290. **Distribution.** Barbados; endemic.

Tribe Lissonotini

Lissonotus shepherdi Pascoe 1895: 16; Blackwelder 1944-1957: 592, Monne and Giesbert 1995: 137; not in Chalumeau and Touroult 2005. **Distribution.** Barbados (Bennett and Alam 1985, Tucker 1952; introduced or misidentification). Guyana and Brasil. **Bionomics.** From imported wallaba wood in Barbados; not established?

Tribe Torneutini

Chlorida festiva (Linnaeus) 1758: 389 (*Cerambyx*); Leng and Mutchler 1914: 445; Tucker 1952: 345; Bennett and Alam 1985: 28; Chalumeau and Touroult 2005: 130. **Distribution.** Widespread New World. Antigua, Barbados (BMAC), Cuba, Dominica, Guadeloupe, Grenada, Jamaica, Martinique, Marie Galante, Puerto Rico, St. Lucia, St. Vincent. SE USA to Argentina. Introduced to São Tome (Gulf of Guinea). **Bionomics.** Bores stems of Barbados ebony, *Inga, Mangifera, Swietenia, Hymenaea, Psidium, Citrus*, etc.

Tribe Trachyderini

Trachyderes (*Trachyderes*) *succinctus* (Linnaeus) 1758: 391 (*Cerambyx*); Blackwelder 1944-1957: 591; Tucker 1952: 346; Bennett and Alam 1985: 28; Chalumeau and Touroult 2005: 134. **Distribution.** Widepread Antilles and Latin America. Barbados, Guadeloupe, Martinique, Les Saintes, St. Croix, St. Martin, St. Thomas, Union. Central and South America to Argentina. **Bionomics.** Polyphagous on *Delonix, Psidium, Hymenaea, Persea, Erythrina, Theobroma*, etc.

Subfamily Lamiinae

The report of *Acrocinus longimanus* (Linnaeus) 1758: 388 from Barbados by Bennett and Alam 1985: 28 is an error. It is distributed from Mexico to Panama and South America and is not in the West Indies (Blackwelder 1944-1957: 608; Monné and Hovore 2005).

Tribe Apomecynini

Adetus lherminieri Fleutiaux and Sallé 1889: 468; Chalumeau and Touroult 2005a: 144. **Distribution.** Widespread Antilles native. Barbados (new record, SBPC), Canouan, Dominica, Grenada, Guadeloupe, Marie Galante, Martinique, Montserrat, Petit St. Vincent, St. Kitts, St. Vincent, Union. **Bionom-**

ics. Larvae develop in poorly lignified woody plants. Host plants: *Coccoloba, Cordia, Gossypium, Hibiscus, Thespesia*, etc.

Tribe Onciderini

Cacostola ornata Fleutiaux and Sallé 1889: 470; Chalumeau and Touroult 2005a: 158; Dalens and Touroult 2007: 291. **Distribution.** Lesser Antilles Native. Bequia, Barbados, Dominica, Grenada, Guadeloupe, Martinique, Montserrat, Mustique. **Notes.** Host trees: *Mangifera, Chrysobalanus, Avicenia*.

Hypsioma grisea (Fleutiaux and Sallé) 1889: 469 (*Hypomia*); Blackwelder 1944-1957: 603; Chalumeau and Touroult 2005: 154. =*Hypsioma insularus* Fisher 1935: 199; Blackwelder 1944-1957: 603; Tucker 1952: 346; Bennett and Alam 1985: 28. **Distribution.** Lesser Antilles Native. Barbados (type locality), Dominica, Guadeloupe, Martinique, St. Lucia, St. Vincent, Union. **Bionomics.** Hosts: *Lonchocarpus, Piscidia, Mangifera*.

Tribe Pogonocherini

Ecyrus hirtipes Gahan 1895: 127; Chalumeau and Touroult 2005a: 163; Dalens and Touroult 2007: 291; Turnbow and Thomas 2008: 17. **Distribution.** Widespread Antilles native. Bahamas (Andros, South Bimini), Barbados (new record, SBPC), Cuba, Dominica, Grenada, Guadeloupe, Hispaniola, Martinique, Montserrat, Puerto Rico, St. John, St. Thomas, Union. **Bionomics.** Polyphagous on many host trees.

Tribe Desmiphorini

Desmiphora hirticollis (Olivier) 1795:11 (*Saperda*). **Distribution.** Widespread New World. Barbados (det. R. E. White), Cuba, Grenada, Guadeloupe, Puerto Rico, St. Vincent, Union. USA (TX), Mexico, Panama, Curaçao, South America, including Galapagos. **Bionomics.** Hosts: *Cordia* and *Sapium*.

Tribe Batocerini

Batocera rufomaculata (De Geer) 1775: 107 (*Cerambyx*); Chalumeau and Touroult 2005: 141. =*Batocera rubus* (Linnaeus) 1758: 390 (*Cerambyx*); Leng and Mutchler 1917: 210; Blackwelder 1944: 596; Bennett and Alam 1985: 28. **Distribution.** Barbados, Puerto Rico, St. Croix, St. John, St. Thomas; introduced to New World. East Africa, SE Asia, Oriental, originally from India; pantropical. **Bionomics.** In many trees, including *Albizzia, Erythrina, Ficus, Mangifera, Cocos, Artocarpus, Carica,* and *Ceiba*; bores stems of fig in Barbados.

Tribe Phrynetini

Phryneta verrucosa (Drury) 1773: 90 (*Cerambyx*); Leng and Mutchler 1914: 448; Tucker 1952: 346; Bennett and Alam 1985: 28; Chalumeau and Touroult 2005: 142. **Distribution.** Barbados (BMAC, 1971 specimen record), Grenada. Trinidad. Introduced to New World; native to Gulf of Guinea (West Africa). **Bionomics.** Bores stems of figs in Barbados. No recent Antilles records are reported.

Tribe Polyrhaphidini

Polyrhaphis spinosa (Drury) 1773: pl. 31 (*Cerambyx*); Tucker 1952: 346; Bennett and Alam 1985: 28. **Distribution.** Barbados (introduced or misidentification; not listed for Antilles in Chalumeau and Touroult 2005). Guianas and northern Brazil (Monne and Giesbert 1995: 235). **Bionomics.** Unverified record for Barbados.

Tribe Acanthocinini

Amniscus assimilis (Gahan) 1895: 136 (*Leptostylus*);. Chalumeau and Touroult 2005: 179. =*Leptostylopsis assimilis* Gahan 1895: 136; Blackwelder 1944-1957: 614; Tucker 1952: 345; Bennett and Alam 1985: 28. **Distribution.** Widespread Antilles and Central America. Barbados, Desirade, Dominica, Guadeloupe, Martinique, Montserrat, St. Kitts, St. Lucia. Mexico. **Bionomics.** Polyphagous on many tree genera; in Barbados attacks dead or dying sugarcane stalks.

Amniscus praemorsus (Fabricius) 1792: 275 (*Lamia*); Chalumeau and Touroult 2005: 180. =*Leptostylus praemorsus* (Fabricius); Blackwelder 1944-1957: 614, Bennett and Alam 1985: 28; Tucker 1952:346. **Distribution.** Widespread Antilles and Central America. Antigua, Barbados, Dominica, Guadeloupe, St. Barts, St. Lucia, St. Martin. Mexico. **Bionomics.** Attacks branches and wood of *Citrus* in Barbados; other hosts as for *A. similis*.

Amniscus similis (Gahan) 1895:136 (*Leptostylus*); Chalumeau and Touroult 2005a: 178; Dalens and Touroult 2007: 291. **Distribution.** Widespread Antilles and South America. Antigua, Barbados, Bermuda, Désirade, Dominica, Grenada, Guadeloupe, Guana, Les Saintes, Marie Galante, Martinique, Puerto Rico, Saba, St. Croix, St. Eustatius, St. Lucia, St. Vincent, Tortola, Virgin Gorda. Trinidad. **Notes.** Taken at several sites in Dominica. Host trees: *Tabebuia, Delonix, Hippomane, Mangifera*.

Lagocheirus unicolor Fisher 1947: 38; Chalumeau and Touroult 2005: 216; Dalens and Touroult 2007: 291. **Distribution.** Barbados; endemic (SPBC, BMAC). This is considered a valid species by Chalumeau and Touroult (I have seen the type in USNM and agree) and is sometimes listed as a synonym of *Lagocheirus araeniformis*(Linnaeus) 1767: 625 which is distributed in USA (FL), Central and South America and Greater and Lesser Antilles. **Bionomics.** In Barbados bores stems of avocado and dead or dying sugarcane stems.

Oedopeza ocellator (Fabricius) 1801: 287 (*Cerambyx*); Dalens and Touroult 2007: 291. **Distribution.** Barbados, Cuba (both introduced). Mexico to Uruguay.

Styloleptus posticalis (Gahan) 1895: 133 (*Leptostylus*); Chalumeau and Touroult 2005: 204. =*Leptostylopsis posticalis* (Gahan); Tucker 1952: 346; Bennett and Alam 1985: 28. **Distribution.** Lesser Antilles native. Barbados, Dominica, Grenada, Guadeloupe, Martinique, Marie Galante, Montserrat, St. Vincent. **Bionomics.** Polyphagous on many tree genera; bores stems of sandbox trees in Barbados.

Urgleptes cobbeni Gilmour 1963: 85; Chalulmeau and Touroult 2005: 188; Dalens and Touroult 2007: 291. **Distribution.** Lesser Antilles Native. Barbados, Desirade, Guadeloupe, Les Saintes, Marie Galante, Montserrat, Saba, St. Barts, St. Eustatius, St. Martin. Records of Curacao and Bonaire are in error.

Urgleptes guadeloupensis (Fleutiaux and Sallé) 1889: 472 (*Lepturges*); Tucker 1952: 346; Bennett and Alam 1985: 28; Chalumeau and Touroult 2005: 190; Turnbow and Thomas 2008: 22. **Distribution.** Widespread Antilles and South America. Bahamas (Andros, Eleuthera, Gran Inagua, South Bimini), Barbados, Cuba, Dominica, Guadeloupe, Les Saintes, Marie Galante, Martinique, Montserrat, Puerto Rico?, St. Croix, St. Vincent. Curacao. **Bionomics.** Polyphagous on many tree genera; bores stems of mango in Barbados.

155. Family Bruchidae, The pea and bean weevils

Subfamily Pachymerinae
Tribe Caryedontini

Caryedon serratus (Olivier) 1790: 1134 (*Bruchus*); Tucker 1952: 347; Bennett and Alam 1985: 28; Kingsolver 2004: 24. **Distribution.** Barbados (BMAC), Dominica, Hispaniola, Jamaica, Virgin Islands. USA (FL, HI), Mexico to South America; an introduced Asiatic species; tropicopolitan. **Bionomics.** An important pest; attacking beans, ground nuts, and other grains in stores, and *Tamarindus indicus*.

Subfamily Bruchinae
Tribe Bruchidiini

Bruchidius incarnatus (Boheman) 1833 (*Bruchus*); Tucker 1952: 346; Bennett and Alam 1985: 28. **Distribution.** Barbados, introduced. A widely distributed Old World pest species. **Bionomics.** Attacks beans, pigeon pea, and other grains in storage.

Callosobruchus analis (Fabricius) 1781 (*Bruchus*); Tucker 1952: 347; Bennett and Alam 1985: 28. **Distribution.** Introduced to Barbados; a widely distributed Old World pest species. **Bionomics.** Reared from imported beans.

Callosobruchus chinensis (Linnaeus) 1758: 386; Blackwelder 1944-1957: 761; Tucker 1952: 347; Bennett and Alam 1985: 28; Kingsolver 2004: 80. **Distribution.** Introduced to Barbados (BMAC), Cuba, Puerto Rico. From USA to Brazil; Old World; Tropicopolitan. **Bionomics.** Attacks black-eye peas and pigeon peas both in the field and in storage in Barbados, and many other legumes.

Callosobruchus maculatus (Fabricius) 1775: 65 (*Bruchus)*. =*Callosobruchus quadrimaculatus* (Fabricius) 1792: 371 (*Bruchus*); Blackwelder 1944-1957: 761; Tucker 1952: 347; Bennett and Alam 1985: 28; Kingsolver 2004: 82. **Distribution.** Introduced to Barbados (BMAC), Cuba, Puerto Rico. Mexico, Belize, USA to South America; cosmopolitan; probably native to Africa. **Bionomics.** The cowpea weevil. Attacks beans, black-eye peas and pigeon peas in the field and in storage in Barbados, and many other legumes.

Tribe Acanthoscelidini

Acanthoscelides flavescens (Fahraeus) 1839: 32 (*Bruchus)*; Blackwelder 1944-1957: 759; Bennett and Alam 1985: 28; Kingsolver 2004: 111; Turnbow and Thomas 2008: 8. **Distribution.** Widespread New World. Bahamas (Andros, Eleuthera), Barbados, St. Vincent (TL). USA (FL, LA, TX), to Mexico, Panama, and South America. **Bionomics.** Hosts: *Abutilon hypoleucus, Galactia striata, Rhynchosia minima, R. longeracemosa, Vicia* sp., and *Eriosema voilaceum*. **Notes.** The Barbados records of attacks on pigeon-pea seeds in dry pods probably pertain to the next species.

Acanthoscelides zeteki Kingsolver 1969: 50. **Distribution.** Widespread Antilles and Latin America. Bahamas, Barbados (det. J. M. Kingsolver, USNM), Puerto Rico. Guatemala, Panama, Venezuela, Curaçao, Trinidad. **Bionomics.** Pest of stored pigeon peas (*Cajanus cajan*). This is a native beetle which has transferred to the introduced legume.

158. Family Chrysomelidae, The leaf beetles

This family can be of significant agricultural and economic importance because adults and larvae feed on leafy plant tissue. Takizawa (2003) is a checklist of West Indian species with known plant associations. Riley et al. (2003) is a catalog of leaf beetles of America north of Mexico, and indicates species occurring in the West Indies, but does not name individual islands.

Subfamily Criocerinae
Tribe Lemiini

Lema sharpi Jacoby 1897: 250; Blackwelder 1944-1957: 631; Tucker 1952: 346; Bennett and Alam 1985: 29; Takizawa 2003: 8. **Distribution.** Lesser Antilles Native. Barbados, Grenada. **Bionomics.** On various weeds.

Lema sp., Bennett and Alam 1985: 29. **Distribution.** Barbados. **Bionomics.** On wild plant.

Subfamily Hispinae
Tribe Cassidini

Agriconota propinqua (Boheman) 1855: 289 (*Cassida*); Takizawa 2003: 97. =*Metriona propinqua* (Boheman) 1855: 289 (*Cassida);*; Blackwelder 1944-1957: 752, Bennett and Alam 1985: 29. **Distribution.** Widespread Antilles and Latin America. Barbados, Cuba, Hispaniola, Puerto Rico. Central and South America. **Bionomics.** Feeds on foliage of sweet potato and species of *Merremia*.

Microctenochira sp. ?*quadrata* (De Geer) 1775: 188 (*Ctenochira*); Blackwelder,1944-1957: 757; Bennett and Alam 1985: 29. **Distribution.** Barbados. *M. quadrata* is reported from Brazil and Paraguay.

Probably an introduction. **Bionomics.** Feeds on leaves of sweet potato and sour grass

Subfamily Galerucinae
Tribe Galerucini

Neolochmaea obliterata (Olivier) 1808: 635 (*Galerucella*); Takizawa 2003: 51. =*Neolochmaea tropica* (Jacoby) 1889: 287 (*Galerucella*); Bennett and Alam 1985: 29. **Distribution.** Widespread Antilles and Latin America. Barbados, Dominica, Jamaica, Puerto Rico. Central and South America. **Bionomics.** Collected on maize and sorghum.

Tribe Luperini

Cerotoma ruficornis (Oliver) 1791: 200 (*Crioceris*); Blackwelder 1944-1957: 692; Takazawa 2003: 45. =*Cerotoma denticornis* Fabricius 1792:24, ; Leng and Mutchler 1914: 454; Blackwelder 1944-1957: 692; Bennett and Alam 1985: 29 (det. R. E. White). **Distribution.** Widespread New World. Barbados, Bequia, Cuba, Grenada, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Vincent. USA (FL, TX), Mexico, Central America to Venezuela. **Bionomics.** On beans and other legumes.

Diabrotica luciana Blake 1965: 104, ; Takizawa 2003: 46. **Distribution.** Lesser Antilles Native. Barbados (det. R. E. White), St. Lucia. **Bionomics.** No data.

Diabrotica sinuata (Olivier) 1789: 106 (*Altica*), [as *Diabrotica capitata* (Fabricius) 1801: 452 (*Crioceris*)]; Takizawa 2003: 46. **Distribution.** Lesser Antillles and Latin America. Barbados (det. R. E. White), Grenada, St. Vincent. Central and South America. **Bionomics.** No data.

Tribe Alticini

Alagoasa decemguttatus (Fabricius) 1801: 492 (*Crioceris*)). ; Wilcox 1983: 128; not listed in Takazawa 2003. **Distribution**. Barbados (det. R. E. White), Puerto Rico. Mexico, Panama, South America.

Altica satellitia (Jacoby) 1891: 267 (*Haltica*); Blackwelder 1944-1957: 700; Tucker 1952: 346; Bennett and Alam 1985: 29; Takizawa 2003: 60. **Distribution.** Lesser Antilles and Latin America. Barbados, Grenada, St. Vincent. Mexico, Guatemala. **Bionomics.** Larvae and adults feed on many-seed (*Ludwigia*).

Altica sp., Bennett and Alam 1985: 29; **Distribution.** Barbados. **Bionomics.** Adults feeding on leaves of beans.

Asphaera albicollis (Fabricius) 1787: 76 (*Chrysomela*); Blackwelder 1944-1957: 707; Takizawa 2003: 65. =*Homophoeita albicolis* (Fabricius), Tucker 1952: 346; Bennett and Alam 1985: 29. =*Omophoita albicollis* (Fabricius), Blackwelder 1944: 707. **Distribution.** Widespread Antilles and Latin America. Antigua, Barbados, Dominica, Hispaniola, Puerto Rico, St. Croix, St. Thomas, Vieques. Trinidad, British Guiana, French Guiana, Brazil, Peru. **Bionomics.** Feeds on leaves of vervain in Barbados.

Chaetocnema amazona Baly 1877: 306; Blackwelder 1944-1957: 705; Bennett and Alam 1985: 29; Tucker 1952: 346. **Distribution.** Barbados, either an introduction or a misidentification. Brazil. **Bionomics.** A pest of sweet potato.

Chaetocnema sp. nr. *apricaria* Suffrian 1868: 219; Blackwelder 1944-1957: 705; Bennett and Alam 1985: 29; Takizawa 2003: 65. **Distribution.** Barbados. *Chaetocnema apricaria* is otherwise recorded from Cuba, Jamaica, Hispaniola, Puerto Rico, Vieques. **Bionomics.** Larvae and adults attack sweet potato, eggplant, cow pops, *Peperomia pellucida* etc.

Chaetocnema sp. nr. *perplexa* Blake 1941: 177; Blackwelder 1944-1957: 706; Bennett and Alam 1985: 29; Takizawa 2003: 66. **Distribution.** Barbados. *Chaetocnems perplexa* is othewise recorded from Cuba. **Bionomics.** Adults feed on leaves of carrot.

Disonycha glabrata (Fabricius) 1781:156 (*Crioceris*) ; Takizawa 2003: 69. **Distribution.** Widespread New World. Barbados (det. R. E. White), Grenada, Jamaica. USA to Central and South America. **Bionomics.** No data.

Epitrix fasciata Blatchley 1918: 56; Blackwelder 1944-1957: 703; Bennett and Alam 1985: 29; Takizawa 2003: 70. **Distribution.** Widespread New World. Bahamas, Barbados, Cuba, Grenada, Puerto Rico,

St. Vincent. USA to Panama. **Bionomics.** Larvae attack roots and adults feed on leaves of sweet potato, tomato, tobacco, egg plant, *Peperomia pellucida*, and *Citrus*.

Lysathia occidentalis (Suffrian) 1868: 197 (*Haltica*); Takizawa 2003: 81. =*Altica occidentalis* Suffrian 1868: 197; Blackwelder 1944-1957: 700; Bennett and Alam 1985: 29. **Distribution.** Widespread Antilles native. Barbados, Cuba, Dominica, Guadeloupe, Hispaniola, Jamaica, Puerto Rico, St. Lucia, Vieques, Virgin Islands. **Bionomics.** The larvae and adults feed on leaves of *Ludwigia* spp. (Onagraceae). The species *Lysathia ludoviciana* (Fall) 1910: 157 (*Altica*) is widespread from the USA, Mexico, and West Indies (Puerto Rico) and may be useful for biocontrol of aquatic weeds because it feeds on *Myriophylum* (Haloragaceae) as well as genera of Onagraceae (Habeck and Wilkerson 1980).

Omophoita (=*Homophoeita*) *aequinoctialis* (Linnaeus) 1758: 374 (*Chrysomela*); Blackwelder 1944-1957: 707; Bennett and Alam 1985: 29; Takizawa 2003: 87. **Distribution.** Widespread Antilles and Latin America. Barbados (BMAC, as *O. albicollis* (Fabricius)), Dominica, Grenada, Guadeloupe, Jamaica, St. Thomas (questionable record), St. Vincent. Mexico to Panama, Colombia to Brazil and Bolivia, Trinidad. **Bionomics.** Feeds on leaves of vervain (*Stachytarpheta indica* Vahl.)

Omophoita albicollis (Fabricius) 1787: 76 (*Chrysomela*); Blackwelder 1944-1957: 707; Takazawa 2003: 88. **Distribution.** Widespread Antilles and Latin America. Antigua, Barbados, Hispaniola, Puerto Rico, St. Croix, St. Thomas. Trinidad to Brazil, Peru.

Phyllotreta sp., Bennett and Alam 1985: 29. **Distribution.** Barbados. **Bionomics.** Feeds on leaves of beet and potato.

Leptophysa sp., =*Pseudoepitrix* sp. **Distribution.** Barbados (det. R. E. White, USNM). **Notes**. Various species occur in the Greater Antilles, and *Leptophysa guadeloupensis* Scherer 1967: 215 is on Guadeloupe.

Systena sp., ; Bennett and Alam 1985: 29 (det. R. E. White, USNM). **Distribution.** Barbados. **Bionomics.** Adults feed on leaves of eggplant.

Subfamily Eumolpinae
Tribe Eumolpini

Colaspis sp. **Distribution.** Barbados (det. R. E. White, USNM).

Tribe Adoxini

Myochrous barbadensis Blake 1947: 26; Bennett and Alam 1985 29; Takizawa 2003: 39. **Distribution.** Lesser Antilles and Latin America. Barbados, Grenada. Trinidad, Guiana. **Bionomics.** Feeds on leaves of sweet potato, cabbage and maize in Barbados; also on young leaves of bananas (Blake 1950). This is probably the same species as the record *Myochrous* sp., Bennett and Alam 1985: 29 feeding on leaves of sweet potato.

Superfamily Curculionoidea

160. Family Anthribidae, The fungus weevils

Tribe Araecerini

Araecerus fasciculatus (De Geer) 1775: 276 (*Curculio*); Valentine 2003: 52. **Distribution.** Barbados (BMAC, introduced), Bermuda, Cuba, Grenada, Hispaniola, Jamaica; to be expected throughout the Lesser Antilles; cosmopolitan; native to Indopacific area. **Bionomics.** The coffee bean weevil. A pest of cocoa, coffee, and dozens of other dried plant materials (Childers and Woodruff 1980).

166. Family Curculionidae, The snout beetles and true weevils

O'Brien and Wibmer (1982) is a catalogue of the weevils of North America, including the West Indies, and Wibmer and O'Brien (1986) is a catalogue of the weevils of South America.

Subfamily Dryopthorinae
Tribe Rhynchophorini
Subtribe Rhynchophorina

Rhynchophorus palmarum (Linnaeus) 1758: 377 (*Curculio*); O'Brien and Wibmer 1982: 210; Bennett and Alam 1985: 30. **Distribution.** Widespread New World. Barbados, Cuba, Dominica, Guadeloupe, Martinique, St. Vincent. Mexico to Panama, South America, USA (CA, TX). **Bionomics.** *Rhynchophorus palmarum* has been associated with species of the palm genera *Acrocomia, Attalaea, Bactris, Chrysalidocarpus, Cocos* (including coconut palm), *Desmoncus, Elaeis (*including oil palm*), Euterpe, Guilielma, Manicaria, Maximiliana, Oreodoxa, Ricinus,* and *Sabal* as well as plants such as *Gynerium* and *Saccharum* (sugar cane) (Graminae), *Carica* and *Jaracatia* (Caricaeae), *Ananas* (pine-apple) (Bromeliaceae) and *Musa* (banana) (Scitamineae) (Wattanapongsiri 1966). Adult females lay eggs in the base of leaf sheaths, terminal shoots or in cuts made by man in the trunk. Larvae prepare a cocoon inside the base of the trunk made from the fibers in the stem around them. The species develops throughout the year. The complete life cycle varies from 45-180 days depending on location. **Economic significance**. This species is a serious pest of coconut palms and other crops including banana, papaya, cacao, and sugarcane throughout the Central and South America and the West Indies. Damage is due to the feeding habits of the larvae which generally weaken the trunk to the point at which the plant is easily broken or toppled.

Subtribe Litosomina

Sitophilus granarius (Linnaeus) 1758: 378 (*Curculio*); Tucker 1952: 348; Bennett and Alam 1985: 30, O'Brien and Wibmer 1982: 220; Wibmer and O'Brien1986: 365. **Distribution.** Barbados (introduced), cosmopolitan; introduced to New World, native to Old World. **Bionomics.** The grain weevil; a pest of stored products.

Sitophilus linearis (Herbst) 1797: 5 (*Rhynchophorus*); Tucker 1952: 348; O'Brien and Wibmer 1982: 220; Wibmer and O'Brien 1986: 365; Bennett and Alam 1985: 30. **Distribution.** Barbados, Cuba, Dominica, Guadeloupe, Jamaica, Puerto Rico, St. Barthélémy. USA (FL, LA); Costa Rica, South America; cosmopolitan, introduced to and widespread in New Worl; native to Old World. **Bionomics.** In stored products; adults are often found in fallen tamarind pods.

Sitophilus oryzae (Linnaeus) 1763: 395 (*Curculio*); Bennett and Alam 1985: 30; O'Brien and Wibmer 1982: 222; Wibmer and O'Brien 1986: 365. **Distribution.** Barbados (introduced). Cosmopolitan; introduced to New World, native to Old World. **Bionomics.** Attacks stored grain

Subtribe Sphenophorina

Cosmopolites sordidus (Germar) 1824: 299 (*Calandra*); O'Brien and Wibmer 1982: 219; Bennett and Alam 1985: 30. **Distribution.** Widespread New World. Barbados, Cuba, Dominica, Guadeloupe, Hispaniola, Jamaica, Puerto Rico. USA (FL), Mexico to Panama, South America, Old World origin, introduced to New World. **Bionomics.** This species is primarily associated with bananas, *Musa* spp. There are some citations of the species also being associated with manilla hemp, plantain, sugar cane and yam but these may be in error, or these plants may be attacked only if bananas are not present (Woodruff 1969). Eggs are laid singly between the leaf sheaths as well as around the corm. Newly emerged larvae bore into the corm. The complete life cycle takes from 30-40 days with the egg stage lasting 5-7 days, the larval stage 15-20 days, and the pupal stage 6-8 days. Adults are primarily nocturnal. **Economic significance**. This species is commonly called the "banana root borer" but its status as a primary pest of bananas needs to be confirmed since most dryophthorines only attack plants that are already sick, weakened or injured. Damage to the banana plants consists of extensive tunneling by the larvae in the corm, thus weakening the plant and making it susceptible to damage or blow-down from winds.

Metamasius hemipterus (Linnaeus) 1758: 377 (*Curculio*); Leng and Mutchler 1914: 478; Tucker 1952: 348; O'Brien and Wibmer 1982: 218; Bennett and Alam 1985: 30; Woodruff et al. 1998: 22. **Distribution.** Widespread Antilles and South America. Antigua, Barbados, Bequia, Dominica, Grenada,

Guadeloupe, Jamaica, Martinique, Montserrat, Puerto Rico, St. Croix, St. Kitts, St. Thomas, St. Vincent. South America. **Bionomics.** The common name is West Indian sugarcane borer (Vaurie 1966). This species is associated with a variety of monocot plants, especially those that are rotting, broken, damaged or weakened. Banana and sugarcane are the two plants most frequently mentioned in the literatur but the species has also been recorded from coconut and royal palm leaf sheaths, stumps *of Iriartea ventricosa* Martius and *Jessenia batua* Burret in Brazil, and has been intercepted at customs in a stem of a species of *Chamaedorea*. Adults have also been recorded on a variety of rotting fruits and on fermenting palm trunks. **Economic significance**. There is debate over the economic status of this species (Woodruff and Baranowski 1985). Certainly the species has been associated with both banana and sugarcane but its impact, especially on the former is uncertain. It appears to prefer unhealthy or injured plants and thus may not be a primary but rather a secondary pest. The adult feeding and larval infestations cause serious damage, at least in sugarcane, especially if the plants have already been damaged by other insects or rats. Populations may build in damaged plants left out to rot and may reinfest subsequent crops.

Subfamily Curculioninae
Tribe Smicroncyhini

Smicronyx roridus Marshall 1952: 267; Bennett and Alam 1985: 30. **Distribution.** Barbados. **Bionomics.** Introduced from Pakistan and India against parasitic love vine (dodder); seemingly not established.

Subfamily Baridinae
Tribe Madarini

Athesapeuta cyperi Marshall 1928: 266 Bennett and Alam 1985: 230. **Distribution.** Barbados (BMAC). **Bionomics.** Introduced from Pakistan against nut grass; seemingly not established.

Subfamily Ceutorhynchinae
Tribe Hypurini

Hypurus bertrandi (Perris) 1852: 183 (*Ceutorhynchus*); Bennett and Alam 1985: 30; Wibmer and O'Brien 1986: 274. **Distribution.** Barbados (introduced). North America, Hawaii, Argentina, Chile; native to Old World. **Bionomics.** Mining leaves of pussley (purslane) (*Portulaca*).

Subfamily Cryptorhynchinae
Tribe Cryptorhynchini

Euscepes postfasciatus (Fairmaire) 1849:513 (*Cryptorhynchus*); Blackwelder 1944-1957: 862; Tucker 1952: 348; Bennett and Alam 1985: 30; Turnbow and Thomas 2008: 31. **Distribution.** Widespread New World. Antigua, Bahamas (Eleuthera, Exuma, Inagua New Providence), Barbados (BMAC), Cuba, Grenada, Jamaica, Nevis, Puerto Rico, St. Croix, St. Kitts, St. Lucia, St. Vincent. Brazil, USA (CA), Hawaii, Tahiti, Old World. **Bionomics.** The scarabee weevil; a serious pest of sweet potatoes.

Subfamily Entiminae
Tribe Eustylini

Diaprepes abbreviatus (Linnaeus) 1758: 386 (*Curculio*); Leng and Mutchler 1914: 468; Tucker 1952: 348; O'Brien and Wibmer 1982: 55; Bennett and Alam 1985: 30. **Distribution.** Widespread Antilles native. Barbados, Dominica, Guadeloupe, Hispaniola, Martinique, Mona Island, Montserrat, Puerto Rico, St. Lucia, St. Vincent, Vieques. USA (FL, introduced, first reported in 1964, O'Brien and Wibmer 1982: 55). **Bionomics.** The *Citrus* root weevil or the diaprepes root weevil. A serious pest, attacking roots of of *Citrus*, sugarcane, maize, avocado pear, grass and many other cultivated plants; larvae

bore into cane bases, sometimes severing them. Woodruff (1964, 1968, 1985) reports that this weevil is commonly called 'the sugar-cane root-stalk borer weevil' or 'vaquita' in Puerto Rico.

Diaprepes famelicus (Olivier) 1790: 544 (*Curculio*); Tucker 1952: 348; Bennett and Alam 1985: 30; O'Brien and Wibmer 1982:55. **Distribution.** Widespread Antilles native. Antigua, Barbados, Cuba, Dominica, Guadeloupe, Martinique, Montserrat, Nevis, St. Barthélemy, St. Kitts. **Bionomics.** This species is a pest in *Citrus* nurseries. The biology is likely similar to that of *D. abbreviatus*. It feeds on leaves of maypole, sisal, pigeon pea, sugarcane, avocado pear and epidermis of spanish needle (*Agave* sp.) in Barbados.

Promecops lunata Fahraeus 1840: 327; Tucker 1952: 348; O'Brien and Wibmer 1982: 59; Bennett and Alam 1985: 30. **Distribution.** Lesser Antilles Native. Barbados, Grenadines, St. Vincent. **Bionomics.** Adults feed on leaves of lima bean and pigeon pea

Tribe Naupactini

Artipus corycaeus Sahlberg 1823: 22; Tucker 1952: 348; O'Brien and Wibmer 1982: 31, Bennett and Alam 1985: 29. **Distribution.** Lesser Antilles Native. Barbados, St. Barthelemy. **Bionomics.** Attacks seeds of crab's eye vine (*Cesalpinia*) and horse-nicker (*Abrus precatorius* L.)

Litostylus boveli (Marshall) 1922: 184 (*Germariella*); Tucker 1952: 348; O'Brien and Wibmer 1982:32; Bennett and Alam 1985: 30. **Distribution.** Lesser Antilles Native. Barbados, Dominica. **Bionomics.** Adults feed on *Citrus* foliage.

Subfamily Molytinae
Tribe Cleogonini

Rhyssomatus strangulatus Gyllenhal 1837: 374. =*Rhyssomatus nigerrimus* Fahraeus 1837: 376; Bennett and Alam 1985: 30. **Distribution.** Lesser Antilles and Latin America. Barbados (det. D. R. Whitehead), Martinique, St. Vincent. Panama and South America. **Bionomics.** Barbados host not recorded; in St. Vincent it attacks sweet potato.

Tribe Sternechini

Chalcodermus angulicollis Fahraeus 1837: 389; O'Brien and Wibmer 1982: 133; Bennett and Alam 1985: 30. **Distribution.** Barbados (probably introduced, R. E. White). Mexico, Guatemala, Panama, South America. **Bionomics.** Collected as adult.

Subfamily Scolytinae
Tribe Hylesinini
Subtribe Phloeotribina

Phloeotribus sp. **Distribution.** Barbados (det. D. M. Anderson). **Bionomics.** No data.

Tribe Scolytini
Subtribe Ctenophorina

Pycnarthrum pallidum (Chapuis) 1869: 41 (*Nemobius*); Tucker 1952: 347; Bennett and Alam 1985: 30; Wood and Bright 1992: 385. **Distribution.** Lesser Antilles Native. Barbados, Guadeloupe. **Bionomics.** Attacks bark of breadfruit and fig in Barbados.

Subtribe Pityophthorina

Araptus xylotrupes (Eichhoff) 1872: 135 (*Pityophthorus*); Bennett and Alam 1985: 30; Wood and Bright 1992: 963. **Distribution.** Barbados. South America (Argentina, Brazil). Not reported elsewhere in West Indies; probable introduction or misidentification. **Bionomics.** Attacks seeds of pigeon pea in dry pods in Barbados.

Subtribe Dryocoetina

Coccotrypes carpophagus (Hornung) 1842: 116 (*Bostrichus*); Bennett and Alam 1985: 30; Tucker 1952: 347; Wood and Bright 1992: 594. **Distribution.** Introduced to New World, probably native to Africa (Wood 1977: 68). Barbados, Bermuda, Cuba, Grenada, Guadeloupe, Jamaica, Montserrat, Puerto Rico, Hispaniola, Virgin Islands. Widespread in North, Central, and South America, Africa, and Asia (Wood and Bright 1992: 594). **Bionomics.** Attacks seeds of palms (*Thrinax argentea* and *Thrinax radiata*), ivory-nut buttons, etc. in Barbados. Elsewhere it is known from nuts and seeds of many species of trees. Commonly intercepted in seeds and nuts in temperate countries, where it cannot breed. Bennett and Alam (1985) also list another species of *Coccotrypes* in Barbados attacking seeds of palms (*T. argentea* and *T. radiata*) but it is probably this one.

Subtribe Cryphalina

Hypocryphalus mangiferae (Stebbing) 1914: 542 (*Cryphalus*); Bennett and Alam 1985: 30; Tucker 1952: 347, Wood and Bright 1992: 869. **Distribution.** Introduced to New World, probably native to India (Wood 1977: 68). Barbados, Guadeloupe. Widespread in Africa, Asia, Australia, Pacific Islands, South, Central, and to North America (FL). **Bionomics.** Bores in twigs of mango; *Mangifera indica* and *Mangifera odorata*. The record of *Cryphalus* sp., Tucker 1952: 347; Bennett and Alam 1985: 30 in twigs of mango and tubers of sweet potato is probably this species.

Hypothenemus obscurus (Fabricius) 1801: 395 (*Hylesinus*); Bennett and Alam 1985: 30; Tucker 1952: 347; Wood and Bright 1992: 936. =*Hypothenemus seriatus* (Eichhoff) 1872: 133 (*Stephanoderes*) in Bennett and Alam 1985:30. **Distribution.** Widespread New World. Barbados, Cuba, Hispaniola, Guadeloupe, Jamaica, Puerto Rico, Virgin Islands. South, and Central America, Mexico, USA (FL). Native to tropical America (Wood 1977: 68). **Bionomics.** Host not recorded for Barbados. Elsewhere feeding in *Bertholletia excelsa, Crotalaria* sp., *Hymenaea courbaril, Myristica fragans, Tamarindus indica, Theobroma cacao*. Intercepted worldwide in Brazil nuts. Bennett and Alam 1985 list two other species in this genus in Barbados boring in twigs of mango and attacking tamarind seeds and both could be this species.

Hypothenemus seriatus (Eichhoff) 1872:133 (*Stephanoderes*); Wood and Bright 1992: 940; Turnbow and Thomas 2008: 32. **Distribution.** Widespread New World. Bahamas (Andros, Great Inagua), Barbados, Cuba, Hispaniola, Puerto Rico, Virgin Islands. North, Central and South America; native to tropical America (Wood 1977: 68); widespread in Africa, Asia, Pacific islands, Australia. **Bionomics.** Hosts: known from many genera of trees and shrubs.

Subtribe Xyleborina

Theoborus theobromae Hopkins 1915: 57; Bright 1985: 173; Wood and Bright 1992: 661. **Distribution.** Widespread Antilles and Latin America. Barbados, Dominica, Guadeloupe, Hispaniola, St. Vincent. Mexico to Panama, Colombia to French Guiana. **Bionomics.** Host trees: *Erythrina costaricensis, Ochroma sp., Theobroma cacao.*

Xyleborus affinis Eichhoff 1868: 401; Leng and Mutchler 1914: 480; Bennett and Alam 1985: 30; Wood and Bright 1992: 706; Turnbow and Thomas 2008: 35. =*Xyleborus perforans* (Wollaston) 1857: 96 (*Tomicus*); Tucker 1952: 347; Bennett and Alam 1985: 31; misidentification for Barbados, otherwise unreported from the New World; widespread in Asia and Africa, and Pacific islands (Wood and Bright 1992: 759). **Distribution.** Widespread New World. Bahamas (Andros), Barbados (det. D. M. Anderson), Cuba, Dominica, Guadeloupe, Hispaniola, Jamaica, Puerto Rico. Widespread in Africa, Asia, Pacific Islands, North, Central, and South America; native to tropical America (Wood 1977: 68). **Bionomics.** Attacks fermenting sugarcane in Barbados. Several hundred host plants are known worldwide.

Xyleborus ferrugineus (Fabricius) 1801: 388 (*Bostrichus*); Tucker 1952: 347; Bennett and Alam 1985: 31; Bright 1985: 173; Wood and Bright 1992; 735; Turnbow and Thomas 2008: 35. **Distribution.** Widespread New World. Bahamas (Andros), Barbados, Cuba, Dominica, Guadeloupe, Hispaniola, Jamaica, Puerto Rico. Widespread North, Central, and South America, Africa, Pacific Islands. Native to tropi-

cal America (Wood 1977: 68). **Bionomics.** Found in many species of woody plants. Boring in twigs of mango in Barbados.

Xyleborus perforans (Wollaston) 1857: 96 (*Tomicus*); Bennett and Alam 1985: 31; Wood and Bright 1992: 759. **Distribution.** Barbados, otherwise unreported from the New World; widespread in Asia and Africa, and Pacific islands. Probable misidentification for Barbados. **Notes.** Attacks fermenting sugarcane in Barbados. Known from many host plants in Asia and Africa.

Subfamily Platypodinae

Platypus parallelus (Fabricius) 1801: 284 (*Bostrichus*); Wood and Bright 1992: 1164. = *Platypus punctulatus* Chapuis 1868: 151; Tucker 1952: 347; Bennett and Alam 1985: 31. **Distribution.** Barbados, Cuba, Hispaniola, Jamaica, Puerto Rico. S. USA, Mexico to Chile, Peru; native to New World; introduced and widespread in Old World tropics. **Bionomics.** Hosts: many genera of trees. This is the most destructive and most widely distributed species of Playtypodinae in the world.

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